Characterization of Wilcox Aquifer Structure, Composition and Hydraulic Properties in Panola County, Texas

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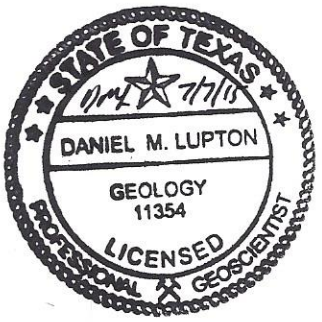

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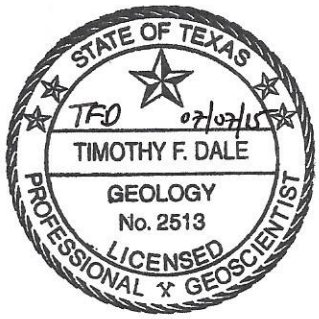

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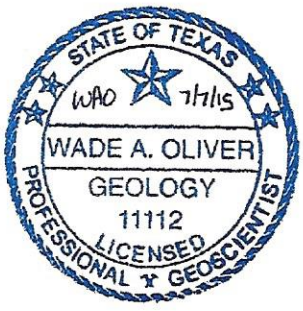

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1.0 Introduction and Study Objectives

Takeaway in Brief

This report documents the results of the first phase of a hydrogeologic study for Panola County Groundwater Conservation District. This Phase 1 investigation includes delineation of the lower Wilcox within the Carrizo-Wilcox Aquifer, characterization of the sand and clay distributions within the aquifer, and an evaluation of the hydraulic properties of the aquifer.

The Panola County Groundwater Conservation District (PCGCD) commissioned INTERA to perform an analysis of the hydrogeologic units underlying the district. PCGCD is coextensive with Panola County in Texas (Figure 1-1). The analysis focused on characterizing the composition and properties of the upper and lower units of the Wilcox Aquifer in sufficient detail to allow evaluation of local-scale and regional-scale impacts of existing and new production wells.

The original scope proposed for the hydrogeological analysis included five tasks:

Task 1) Lower Wilcox Delineation and Lithologic Characterization

Task 2) Hydraulic Property Characterization

Task 3) Analytical Well Impacts Tool Deployment

Task 4) Evaluation of Regional Pumping Impacts for a Broad Range of Scenarios

Task 5) Development of Mapping Application for District Website

The proposed scope was subsequently amended, and the first two tasks were approved for completion. This report documents the hydrogeological analyses conducted and the subsequent results obtained under Tasks 1 and 2 above.

The purpose of Task 1 was to delineate the composition (distribution of sands and clays) of the Wilcox unit and the lateral and vertical extents of the lower Wilcox. The results of Task 12 are presented in Section 2. The purpose of Task 2 was to evaluate available historical and any newly acquired data related to hydraulic properties, predominantly the formation hydraulic conductivity and storativity and the development of a relationship between lithology and the formation hydraulic properties. This was done to enable estimation of water-level drawdowns throughout the aquifer when reviewing production permit applications.

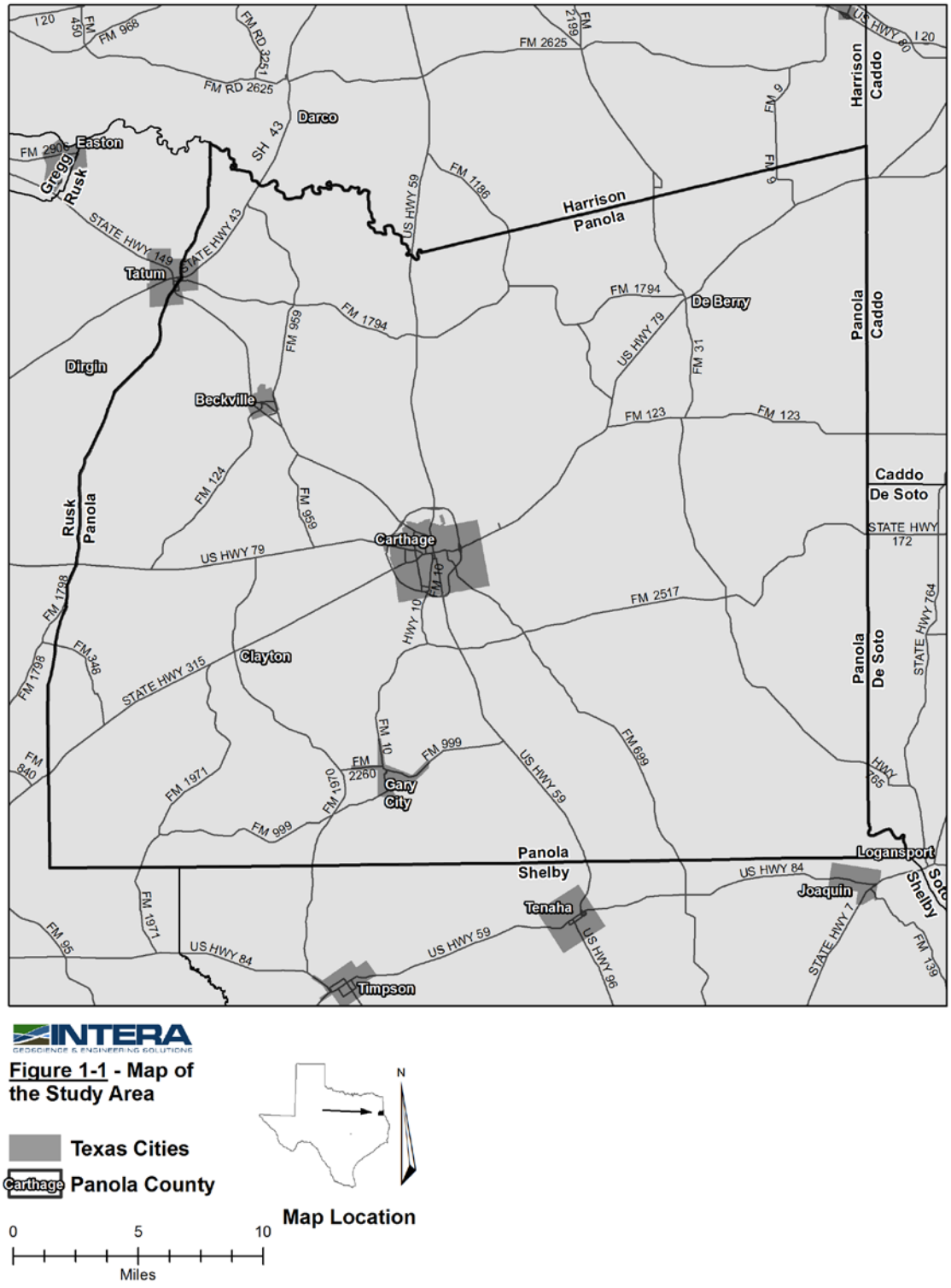

Figure 1-1. Panola County Groundwater Conservation District Base Map

2.0 Lower Wilcox Delineation

Takeaway in Brief

The Wilcox Group of the Carrizo-Wilcox Aquifer is the primary aquifer of interest in Panola County and the focus of the current study. Previous studies of the groundwater resources of the Carrizo-Wilcox Aquifer relevant to Panola County include groundwater availability models developed for the Texas Water Development Board and site investigations for radioactive waste isolation and lignite exploration. The previous work most relevant to the current study is Kaiser (1990) – Wilcox Group (Paleocene-Eocene) in the Sabine Uplift Area, Texas: Depositional Systems and Deep-Basin Lignite.

Hydrogeologic units in the subsurface in Panola County of interest to PCGCD are in the Wilcox Group of the Carrizo-Wilcox aquifer. The Carrizo-Wilcox aquifer is comprised of hydraulically connected sands from the Wilcox Group and the overlying Carrizo Formation of the Claiborne Group (Ashworth and Hopkins, 1995). The Carrizo-Wilcox aquifer is classified as a major aquifer by the Texas Water Development Board (TWDB) (George and others, 2011). Figure 2-1 shows a representative stratigraphic section that includes the Carrizo-Wilcox Aquifer in Texas. The aquifer extends across Texas, from the Rio Grande in the southwest to the Sabine River in the northeast and beyond into Louisiana and Arkansas. Minor changes in nomenclature and the nature of various formations occur across Texas. The aquifer consists of fluvial-deltaic sediments of the upper Paleocene and lower Eocene Wilcox Group and Carrizo Sand. Regionally, the aquifer is bounded below by marine deposits of the Midway Formation and above by the Reklaw and Bigford Formations, representing a semi-confining unit between the Carrizo Sand and the overlying, shallower aquifer of the Queen City Formation. In Panola County, the unit is still bounded below by the Midway Group, but the Reklaw, Bigford and Carrizo Formations have been partially or completely eroded away.

Figure 2-2 shows the surface geologic map (after Barnes, 1968) in the project area. The primary geologic unit at surface in Panola County is the Wilcox Group, with minor amounts of Carrizo Sand in the northeastern and southern portions of the County. In addition, large swaths of Quaternary Alluvium and Quaternary Terrace deposits flank the tributaries and main stretch of the Sabine River going from northwest to southeast through the County. Some small exposures of the Sparta Sand, Weches Formation, Queen City Sand and Reklaw Formation exist to the south and northwest of the study area. The occurrence and distribution of these younger units in Panola County is the result of decreased exposure on the flanks of the Sabine Uplift located towards the east. Sustained uplift and fluvial down cutting are the main factors leading to the Wilcox Group being exposed at surface within Panola County.

Comprehensive regional hydrogeologic descriptions of the Carrizo-Wilcox aquifer have been most recently provided in the development of the conceptual models for the three groundwater availability models commissioned by the TWDB in 2001 (Deeds and others, 2003; Dutton and others, 2003; Fryar and others, 2003), which were summarized in a chapter of a recent TWDB publication (Deeds and others, 2010). These studies considered the southern, central, and northern portions of the aquifer, respectively, and built on the considerable existing literature describing the geology and hydrogeology of the Carrizo-Wilcox at various locations and scales. The seminal regional work on the aquifers in the East Texas Basin was performed by the Bureau of Economic Geology (BEG). In the 1970s and 1980s, the

BEG performed a number of detailed hydrogeologic studies in the Carrizo-Wilcox Aquifer of the East Texas Basin in support of preliminary site characterization for radioactive waste isolation (funded through the National Nuclear Waste Isolation Program overseen by the U.S. Department of Energy). Additionally, the occurrence of economic deposits of lignite in the area further spurred geologic and hydrogeologic characterization of the near surface units (less than 2,000 feet below ground surface).

The most relevant geological study characterizing the hydrogeologic units in Panola County is Kaiser's (1990) Wilcox Group (Paleocene-Eocene) in the Sabine Uplift Area, Texas: Depositional Systems and Deep-Basin Lignite. The study was commissioned in an attempt to investigate techniques for quantifying deep basin lignites using geophysical logs and the deep basin lignite reserves in the Sabine Uplift area. In support of the latter goal, Kaiser created maps of the structural elevation, net sand, percent sand, maximum percent sand and maximum net sand for the upper and lower Wilcox Units within the Sabine Uplift area. The structure maps of the Wilcox units are very relevant to this study as Kaiser spent considerable time evaluating logs in the area and developed a scheme for picking the structural elevations of the contacts used to differentiate the upper and lower Wilcox units. This scheme, which separates the Wilcox into two unique depositional environments, was used in the current analysis as a framework when building the structure within the study area. Kaiser's parsing of the Wilcox into the upper and lower comes from his recognition that the lower Wilcox is texturally similar to the progradational Hooper Formation to the west, while the upper Wilcox is texturally similar to the aggradational Simsboro and Calvert Bluff Formations.

2.1 Structural Setting

Takeaway in Brief

Panola County is located in an area known as the Sabine Uplift. This is a geologic feature that has been present since the deposition of the sediments of the Wilcox group. Due to the uplift, sediments of the Wilcox are thinner in Panola County than in areas of the aquifer to the west. Some faulting occurs in the southern and southwestern portions of Wilcox in Panola County with offsets of 200 to 400 feet in some areas.

Figure 2-3 provides a map of the major structural features of the East Texas Basin and Sabine Uplift areas. Major Wilcox structural elements in the study area include the Sabine Uplift, the East Texas Basin and the Mount Enterprise Fault Zone (MEFZ) (Kaiser, 1990). The sediments that form the Carrizo-Wilcox aquifer are part of a gulfward thickening wedge of Cenozoic sediments deposited in the Rio Grande and Houston Embayments of the Gulf Coast Basin. Deposition in the Rio Grande Embayment was influenced by regional subsidence, episodes of sediment inflow from areas outside of the Gulf Coastal Plain, and eustatic sea-level change (Grubb, 1997). Galloway and others (1994) characterized Cenozoic sequences in the Gulf Coast in several ways. Deposition of Cenozoic sequences is characterized as an offlapping progression of successive, basinward thickening wedges. These depositional wedges aggraded the continental platform and prograded the shelf margin and continental slope from the Cretaceous shelf edge to the current Texas coastline. Deposition occurred along sand-rich, continental margin deltaic depocenters within embayments and was modified by growth faults and salt dome development.

Sediments primarily derived from the paleo-Ouachita Mountains were transported along the axis of the East Texas Embayment to the west of the Sabine Uplift (Figure 2-3) (Kaiser, 1990). Continental scale Wilcox rivers transporting these sediments were also influenced by the occurrence and distribution of salt domes and salt withdraw structures. Deposition on the western flank of the Sabine Uplift greatly outpaced deposition on the uplift. This resulted in thicker assemblages of Wilcox sands and clays on the flanks of the Sabine Uplift and thinner assemblages of Wilcox sands and clays directly atop of the Sabine Uplift. Structurally, the study area is located directly on top of the Sabine Uplift.

North of the MEFZ, Wilcox strata dip gently to the west-southwest towards the East Texas Embayment at around 0.2^{o} to 0.4^{o}, with local perturbations on the dip (about 1^{o}) occurring within the fault blocks. Normal faulting within the study area is present in the southern and southwestern portions. Faults generally have throws of 200 to 400 feet on the Wilcox horizons. Faulting was initially triggered by Jurassic salt tectonism (Ferguson, 1984) and later perpetuated by sedimentary loading during Cenozoic gulfward progradation (Jackson, 1982). Jackson (1982) contends that some of the displacements on the down thrown side of the fault blocks were/are syndepositional and account for the Wilcox overthickening in the central graben portion of the faults. This idea will be discussed in further sections.

2.2 Stratigraphy

Takeaway in Brief

The Wilcox Group is Paleocene to Eocene in age with sediments deposited 50 to 60 million years ago by rivers and river deltas. The Wilcox is divided into upper, middle and lower units throughout much of Texas, but only into upper and lower units in East Texas. The lower Wilcox typically contains shaley thin sands and lignite while the upper Wilcox contains blockier sands interbedded with clays. The Carrizo formation overlying the Wilcox is almost entirely eroded away in Panola County leaving the upper Wilcox exposed at land surface.

Regionally, in the portion of the aquifer stretching from the Rio Grande to the Colorado River, the Wilcox Group is subdivided into a lower, middle, and upper Wilcox (Figure 2-1). The upper Wilcox in the deeper subsurface is correlated to the Carrizo Formation in the outcrop (Bebout and others, 1982; Hamlin, 1988). Bebout and others (1982) mapped the lower contact of the upper Wilcox based on the lower regional marker identified in geophysical logs by Fisher and McGowen (1967). Hamlin (1988) also combined the Carrizo and upper Wilcox and mapped the base of the upper Wilcox as a distinct facies change from a fluvial (bed-load channel system) and mixed alluvial facies in the upper Wilcox to a predominantly marine facies (delta, prodelta) in the middle Wilcox. In comparison, Klemt and others (1976) lithologically picked the base of the Carrizo Aquifer as the top of the Wilcox Group by identifying the base of the major sand units of the Carrizo Formation. Klemt's mapped Carrizo Formation correlates with the Carrizo as mapped in central Texas (Ayers and Lewis, 1985).

Between the Colorado and Trinity rivers, the Carrizo–Wilcox Aquifer system is composed of four hydrostratigraphic units with distinct hydraulic properties: the Hooper, Simsboro, and Calvert Bluff formations of the Wilcox Group and the Carrizo Sand of the Claiborne Group (Figure 2-1). In general, the Simsboro and Carrizo formations contain thicker, more laterally continuous and more permeable sands

and, therefore, are more important hydrostratigraphic units when determining groundwater availability. The Calvert Bluff and Hooper formations typically are made up of clay, silt, and sand mixtures, as well as lignite deposits. Because of their relatively low vertical permeability, the Hooper and Calvert Bluff formations act as leaky aquitards that confine fluid pressures in the Simsboro and Carrizo aquifers and restrict groundwater movement between the layers. Although the Hooper and Calvert Bluff formations contain sand units, they are generally finer and less continuous than the sands of the Simsboro and Carrizo formations. Above the Carrizo Formation, the low-permeability marine shale of the Reklaw Formation restricts vertical groundwater movement to the overlying Queen City Formation in the Claiborne Group.

Locally, in the Sabine Uplift area as one moves east of the Trinity River, the Simsboro is no longer as distinctly identifiable, and the Wilcox is divided into informal lower and upper units. The lower Wilcox represents the facies equivalent of the Hooper Formation, and the upper Wilcox includes both the Simsboro and the Calvert Bluff equivalent fluvial and fluvial-deltaic facies, respectively (Kaiser, 1990). In the eastern portion of the Sabine Uplift where PCGCD is located, the Carrizo formation has been almost entirely eroded, leaving the upper Wilcox at surface over the majority of the study area.

During the Paleocene and early Eocene, the Gulf Coast Basin in East Texas and Louisiana was filled primarily by major delta systems in the Mississippi and Houston Embayments and secondarily by a fluvial system in the East Texas Basin (Kaiser, 1990). Paleo-rivers brought sediments from the Ouachita Mountains and deposited them in the East Texas basin as a vertical sequence of progradational (deltaic) to agradational (fluvial) sediments. Kaiser modeled the sediments as highly interconnected north-south trending sand bodies closely mirroring the paleo-rivers and their respective tributaries. The upper and lower Wilcox are distinguished primarily by their geophysical log characteristics and how those characteristics relate to the depositional environment.

In practice, the contact between the lower Wilcox and Midway is picked at the base of the inverted “Christmas tree” pattern (representing a fining upward sequence) on the resistivity/induction log (see Figure 4 in Kaiser (1990)). This is a fairly straightforward pick, as the lower Wilcox represents the first basinward progradational sequence following the deposition of the Midway flooding surface. The exact contact between the lower and upper Wilcox is a bit more problematic in areas. The contact between the lower and upper Wilcox is at the transition between the sharp shaley/thin sands of the lower Wilcox (progradational deltaic) into the thick blocky sands of the upper Wilcox (agradational fluvial). Kaiser (1990) indicates this transition as a thin lignite seam at the top of the lower Wilcox unit.

2.3 Updated Delineation

Takeaway in Brief

The source information to update the Wilcox structure and delineate the boundary between the upper and lower Wilcox in Panola County consisted of Kaiser (1990) and 115 publically available geophysical logs. We developed surfaces for the base of the Wilcox and the contact between the upper and lower Wilcox. We then interpreted resistivity logs to evaluate the sand and clay composition (lithology) of the aquifer.

The bulk of the analysis covered in this study stemmed from two primary pieces of data: structure maps created by Kaiser (1990) and geophysical logs acquired from public sources. As Kaiser (1990) previously developed a structural and stratigraphic model for this area, our primary focus was to add to this data in areas where Kaiser (1990) did not have geophysical log picks. These new log picks were integrated into the structural surfaces to increase data density.

2.3.1 Electric Logs

Geophysical well logs used in the study area were primarily derived from two databases: the Brackish Resource Aquifer Characterization System (BRACS) Database and the Railroad Commission's (RRC) Q-log Database. The BRACS database is maintained by the BRACS group at the TWDB and was designed to store well and geology information in support of projects to characterize the brackish groundwater resources of Texas. The RRC's Q-log database is stored and maintained by its Groundwater Advisory Unit. Any operator drilling a new oil and gas well or reentering an existing well must have a plan for the well design that is approved by the Groundwater Advisory Unit. The well design must show that surface casing is adequately protecting against contamination of the fresh (less than 1,000 mg/L total dissolved solids) and useable (less than 3,000 mg/L) quality water. The Groundwater Advisory Unit uses their Q-log database to determine the base of fresh and useable quality water. Both of these databases are publicly available and can be acquired upon request.

All of the logs used in this study were electric logs. Electric logs are made up of a spontaneous potential (SP) curve on the left side of the log tract and a resistivity curve on the right side of the log tract. An SP log is the measurement of a naturally occurring voltage (or "potential") caused when conductive drilling fluids come in contact with the geologic formations. The primary function of the SP log is to decipher between a sand and a clay in terrigenous depositional environments. To do this, there must be a potential created between the borehole fluid and the formation fluid.

In deep brackish formations, such as the hydrocarbon bearing formations that are targeted by oil and gas wells in the study area, the potential (or voltage) spontaneously created between the borehole and formation fluid is great enough to be clearly recorded on the geophysical log. Unfortunately, in the fresh to slightly saline formations such as the Carrizo-Wilcox, the borehole and formation fluid are too electrochemically similar to create a recordable potential. Therefore, the SP curve on the electric logs was not heavily used in this analysis to decipher the distribution of sands and clays or structural contacts.

The resistivity log is one of the oldest and most common logs run in the oil and gas industry. The log is based on the principle that most rock matrices are electrical insulators and therefore have infinite resistivity (resistance to the flow of electricity), but sedimentary rock is often porous, and the pores are usually fluid (mainly water) bearing. If the water contains soluble salts, it will be conductive and the rock as a whole will exhibit a conductivity which is a function of the porosity, the ionic makeup of the fluid, and the interconnectivity of the pore throats. In practice, a resistivity "spike" or increase in amplitude is indicative of a sand, and the thickness of the spike on the log is directly proportional to the thickness of the sand. These physical attributes of the resistivity curve are used to decipher depositional environment, structural contacts, lithologic changes, water quality, oil/gas/water contacts, etc.

2.3.2 Lithologic Picks from Electric Logs

A shale is an ionically dense material and in turn an excellent conductor of electricity. Because conductivity is the reciprocal of resistivity, a shale is represented by a trough on the resistivity curve. A porous sand filled with fresh to slightly saline water is relatively non-conductive and will be represented on a resistivity log by a spike. In general, the magnitude of the resistivity spike is related to the interconnectivity of the sand unit and the ionic makeup of the water filling the pores. That is, the fresher and more interconnected (permeable) a sand/gravel package is, the higher the magnitude of the resistivity signature. As the water quality in the sand/gravel formation degrades and the sodium and chloride ions increase, the pore fluid within the unit will become more conductive, and the magnitude of the resistivity spike will reduce. At this point, assuming that there is a good contrast between the borehole fluid and the formation fluid, the spontaneous potential or SP log would primarily be used to evaluate the size and location of the sandy units. However, the water quality in the units relevant to this study did not degrade significantly, and therefore the resistivity curve was used to make all of the geophysical log-based sand and clay picks. Sand picks were made on 79 out of the 115 geophysical well logs in the study area (Figure 2-4). Wells that did not have sand picks, which are primarily in the northeastern portion of the study area, are the result of a combination of the structurally high Midway surface and a deeper top logging interval in the logs.

2.3.3 Structural Picks from Electric Logs

Structural picks in the study area were made for the Top of Midway, the contact between the upper and lower Wilcox units, and one pick was made for the top of the upper Wilcox (Figure 2-5). The distribution of picks for the Top of Midway is considered adequate, with the exception of the northern portion of the County. Geophysical logs available from the public data sources were insufficient in this area, and the ones that were available did not have a shallow enough top logging interval. The distribution of picks for the contact between the upper and lower Wilcox is considered adequate for the purposes of this study. Picks for the top of the upper Wilcox (Figure 2-5) are considered inadequate. Again, top logging intervals did not start deep enough in the majority of the wells, which made it impossible to follow the structural picks laterally from wells where a potential pick could be made. However, the Wilcox is either close to ground surface or at ground surface in the majority of the study area. This would functionally make the top of the Wilcox ground surface in the study area. In areas where Carrizo or some type of Quaternary deposit is at ground surface, thicknesses of the total Wilcox will be overestimated by as much as 100 feet.

In an effort to evaluate the structural setting of the Wilcox in the study area, geophysical logs were hung on two cross sections going through the study area. Figures 2-6a and 2-6b represent a section going from West to East through the study area. Figures 2-7a and 2-7b represent a section going from North to South through the study area.

Figure 2-6b is a strike-oriented section going roughly west-east through the study area and was created to show the lateral termination due to pinchout or erosion of the lower Wilcox unit. In the areas where the lower Wilcox is not present, the upper Wilcox is in direct contact with the Midway Formation. Termination of the lower Wilcox was determined by the character of the sediments immediately above

the top of the Midway Formation. The lower Wilcox is represented by a progradational fluvial-deltaic depositional environment. Lithologically, the lower Wilcox is identified by a fining upward sequence followed by a series of thin stacked sands. The upper Wilcox represents an agradational series of fluvial sediments characterized in the study area by blocky, high resistivity, sands. In areas where these blocky, high resistivity sands occur down to the top of the Midway Formation, it is determined that the lower Wilcox was either never deposited or eroded, and the upper Wilcox makes up the entire Wilcox Formation. In addition, Kaiser's (1990) structure maps were used to delineate the updip extent of the contact between the upper and lower Wilcox.

Figure 2-7b is a dip-oriented section going roughly north-south through the study area and was created to illustrate faulting associated with the eastern limit of the Elkhart-Mount Enterprise Fault Zone. Regionally, the faults have throws of 100 to 500 feet (Kaiser, 1990). Locally, fault throws are on the order of 100-250 feet, mainly to the south. Faulting in the study area generally begins south of well Q301. Faulting is attributed to movement in the deep Jurassic salts and has been perpetuated by sediment loading of Gulf Coast units (Kaiser, 1990). In some areas of the East Texas Basin, syndepositional faulting can be inferred by the presence of large sand packages (overthickening). This phenomenon can be seen in wells Q3 (updip of fault) and 424190030000 (down-dip of the fault). Large blocky sands have accumulated on the upthrown side of the fault in well Q3. Hydrogeologically, offset due to faulting can also juxtapose transmissive sands on the upthrown side of the fault against non-transmissive clays on the downthrown side of the fault, resulting in restricted flow down-dip of the faults. This cessation of the recharge making it down-dip can result in a sharp water quality change in the sands up- and down-dip of the fault features. In addition, faults can also cause mounding in the potentiometric surface, as they can represent a barrier to groundwater flow.

2.3.4 Digitization of Kaiser (1990) Structural Surfaces

Structural surfaces from Kaiser (1990) for the base of the Wilcox and contact between the upper and lower Wilcox were digitized using ESRI's ArcGIS© v 10.2. Plates from Kaiser (1990) were provided by the Bureau of Economic Geology in a digital (.png) format. Within the figures were cross hatches that represented intersections of latitude and longitude lines. Points representing the exact location of these cross hatches were created as shape files in ArcGIS©, and the .png of the structure maps was georeferenced to these points. A check for consistency between the County boundaries on the georeferenced plates and a shapefile of Texas counties was performed, and the results were agreeable.

After georeferencing the plates, contour lines representing the structural surfaces were digitized for the study area. Of particular importance when digitizing the contour lines were the normal faults that Kaiser resolved in the southern portion of the study area. Offsets as a result of these faults were certainly noticeable in the geophysical logs, but INTERA defaulted to Kaiser's specific fault geometry and offset due to his significant expertise in this area.

Once the contours and fault lines were digitized, they were converted to a raster surface using the ArcGIS© Topo to Raster tool. This process produced a consistent surface in the areas that were not affected by faulting, but not in the areas in and near the faulting. The Topo to Raster tool had an option that allows the user to input a line feature class which can be used to represent the faults (interpolation

boundary), but results were less than satisfactory. The rasters representing the structural surfaces were converted into a Triangulated Irregular Network (TIN), and the feature class representing the fault locations was converted to a 3D feature class. Converting the raster to a TIN allowed for a more interactive editing of the surfaces and in turn resulted in a product that more closely reflects the surfaces created by Kaiser (1990). After editing, the TINs were converted back into a raster surface.

2.3.5 Consistency between INTERA's and Kaiser's (1990) Structural Picks

Surfaces representing Kaiser's structural elevation of the base of the Wilcox and contact between the upper and lower Wilcox were sampled to the wells where INTERA made structural picks for the same unit. The two sets of picks were then subtracted to see the difference in elevation between Kaiser's (1990) surface and the structural pick made by INTERA. In areas where there was more than 50 feet of difference, the geophysical log was revisited to confirm that the structural pick that INTERA made did not need adjusting.

After checking all of the structural picks, the next step was to change Kaiser's contours in areas where more information was available. In areas where the electric log picks did not align with the contours from Kaiser (1990), changes were made to the contours as appropriate. Edits to the structural surfaces were concentrated in the areas where Kaiser (1990) had less well control. After the contours were edited, they were converted back into raster surfaces using the same process described above in Section 2.3.4. The resulting structural surfaces are plotted in Figures 2-8 and 2-9. A Digital Elevation Model (DEM) provided by the United States Geological Survey (USGS) was used to subtract ground surface from the base of Wilcox (top of Midway Formation) to get an approximate thickness of the Wilcox Group in PCGCD (Figure 2-10). Minor perturbations of approximately 100 feet will occur in areas with preserved Carrizo, such as the extreme northwestern and southern portions of the district (Figure 2-2). Additionally, accumulations of Quaternary Alluvium could impact the Wilcox thickness calculation by approximately 25 feet (Figure 2-2).

2.4 Lithologic Evaluation of Area Groundwater Wells

Takeaway in Brief

The lithology of an aquifer, evaluated here as percent sand, is often an indicator of its productivity. We evaluated lithology using 79 geophysical logs and rock type descriptions provided by drillers in water well drilling reports. Geophysical logs, which are typically completed for oil and gas wells, are more reliable than drilling reports but often do not extend into the shallow portions of the aquifer. Of the 2,063 drilling reports in the county available for analysis, we used the 695 that were deep enough to represent at least half of the aquifer thickness. The resulting distribution of percent sand is consistent with the north-to-south axis of sediment deposition.

Lithologic data derived from the analysis of geophysical logs was insufficient in the first 100-200 feet of the majority of the geophysical logs. Additionally, the spacing of geophysical logs for the interpretation of sand geometries was considered inadequate. Therefore the data was supplemented with the digitization of 2,063 Submitted Driller's Reports (SDR) (Figure 2-11). In the state of Texas, when a licensed driller oversees the drilling of a groundwater well, he or she is required to log the lithologic

changes encountered as the rig drills deeper. These tabulated lithologic changes are annotated onto the driller's report and subsequently submitted to the Texas Department of Licensing and Regulation (TDLR). Since 2001, these forms have been stored in a digital format at the Texas Water Development Board. This database is publically available and is regularly used by hydrologists to evaluate subsurface trends. INTERA accessed this database in an attempt to better understand the distribution of sands and clays within the study area.

This process involved interpreting the lithologic characterizations made by the driller and parsing it into a sand, clay, lignite or other category. Once the picks were parsed into the appropriate category, the percent of the entire borehole thickness represented by sand was calculated. In addition, the base of the Wilcox (top of the Midway) was sampled to each of the wells and, based on the depth of the borehole, a calculation for the percent of the Wilcox aquifer represented was made. This data was combined with the sand picks from geophysical logs, and a histogram showing the distribution of percent of Wilcox aquifer represented was made (Figure 2-12). As can be seen in Figure 2-12, 67 percent of the lithologic picks represent less than half of the thickness of the Wilcox aquifer in the study area. This means that lithologic interpretations using this data will be biased towards the upper portions of the Wilcox aquifer. The remaining 33 percent of the interpretations, or 695 wells, are wells that characterize 50 to 100 percent of the Wilcox aquifer. While some bias towards the upper portions of the Wilcox aquifer remains, these latter wells were used to create a percent sands map for the study area (Figure 2-13).

When creating the sand percent map for the combined upper and lower Wilcox in the study area, careful consideration was taken when selecting the most appropriate interpolation algorithm. Kaiser (1990) represents the Wilcox sand distributions as "a series of north-south trending elongate, channel-fill sands that are tens to hundreds of feet thick and a few thousand feet wide woven into multi-lateral ribbons connected to form complex channel networks". It is worth mentioning that Kaiser (1990) contoured (interpolated) percent sands for the lower Wilcox and percent major sands for the upper Wilcox, while INTERA combined the lower and upper Wilcox and interpolated percent sands for the entire unit. In addition, Kaiser (1990) did not evaluate the distribution of percent sands in the Panola County area for the upper Wilcox due to lack of well data.

The incorporation of drillers' lithologic descriptions into the sand percent calculations greatly enhanced the data density in the shallow subsurface. In addition, following the general directional trend proposed by Kaiser (1990) provided a percent sand distribution that is reflective of the paleodepositional fluvial orientations. Major differences between the INTERA percent sand map and the Kaiser (1990) percent sand maps are in the interconnectivity of the fluvial axis. Due to the updip and outcropped nature of the Wilcox in the study area, combined with the fact that the Wilcox was deposited on a structural high (Sabine Uplift), we feel like the disconnected nature of the fluvial axes is appropriate.

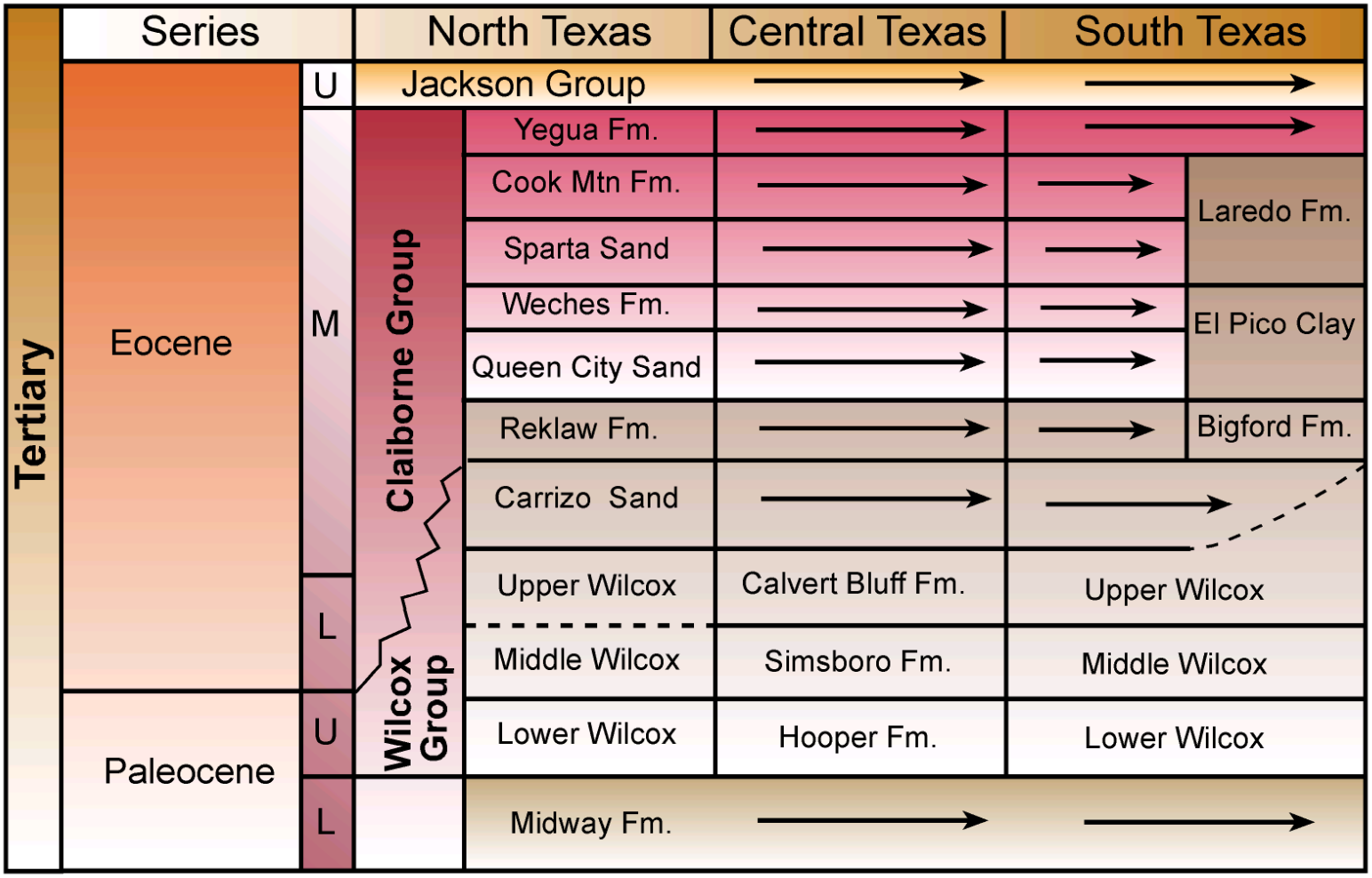

Figure 2-1. Study Area Stratigraphy (from Kelley and others, 2004)

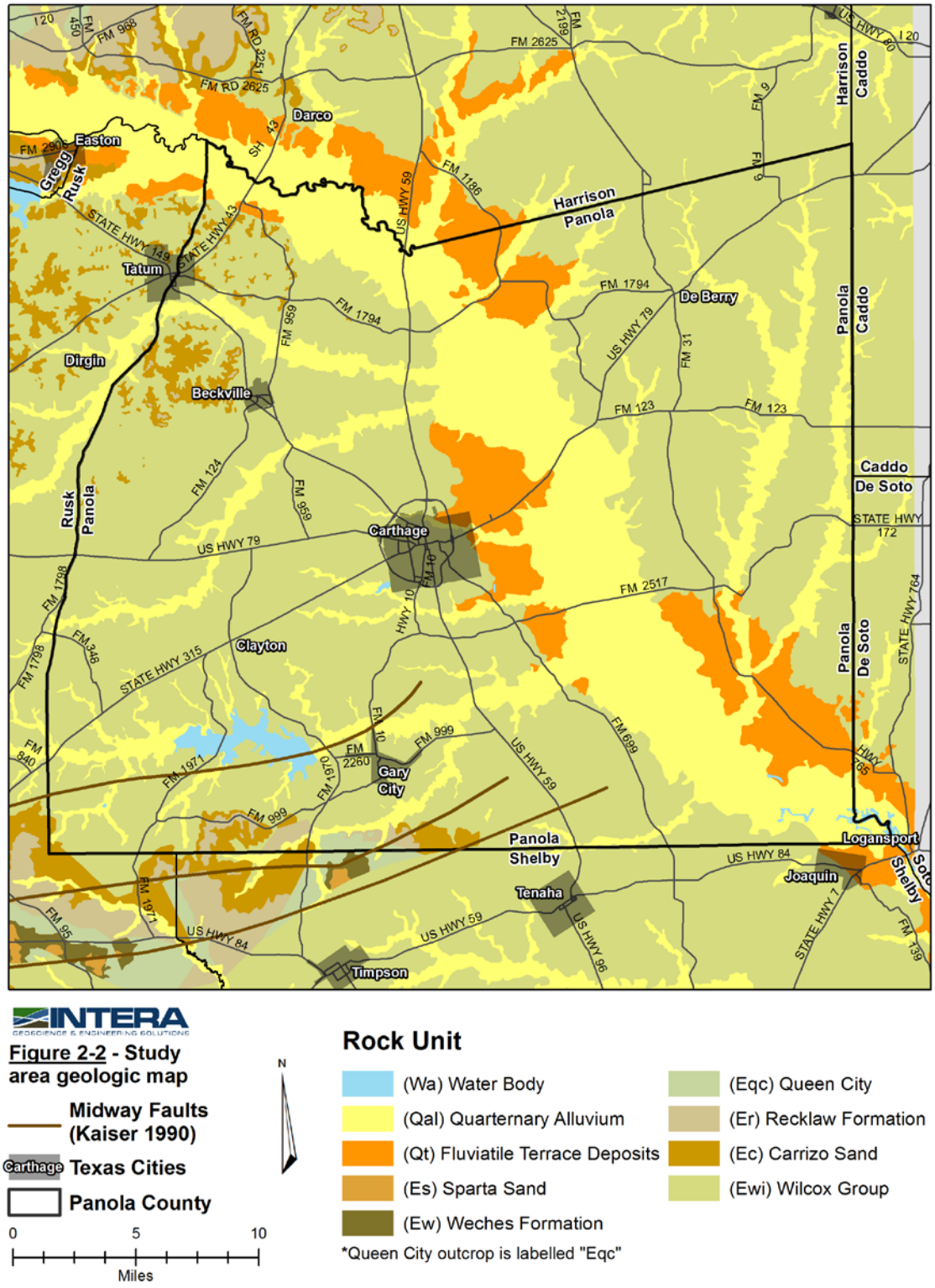

Figure 2-2. Surface Geology of Panola County

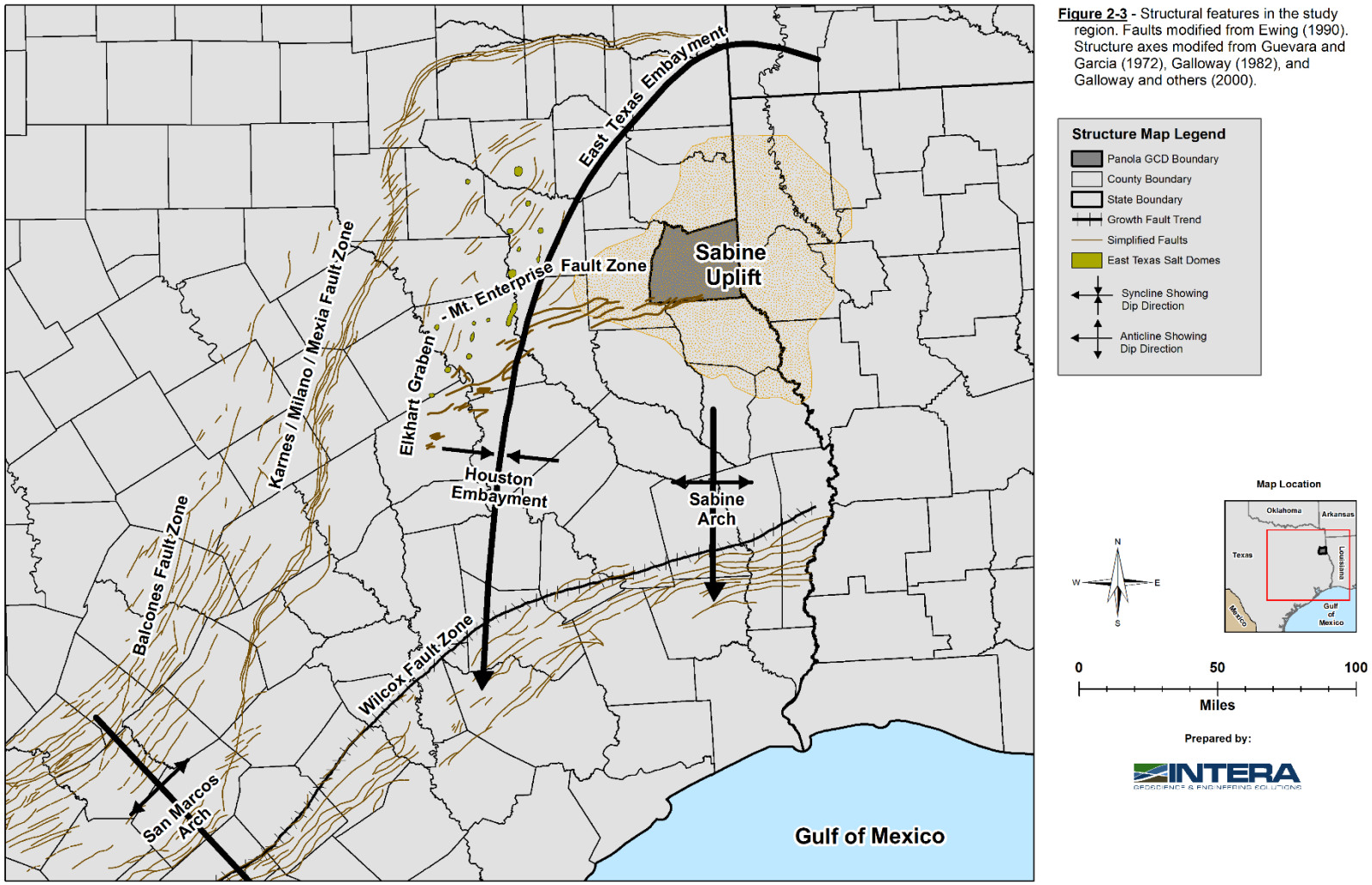

Figure 2-3. Major Structural Features of the East Texas Basin and Sabine Uplift

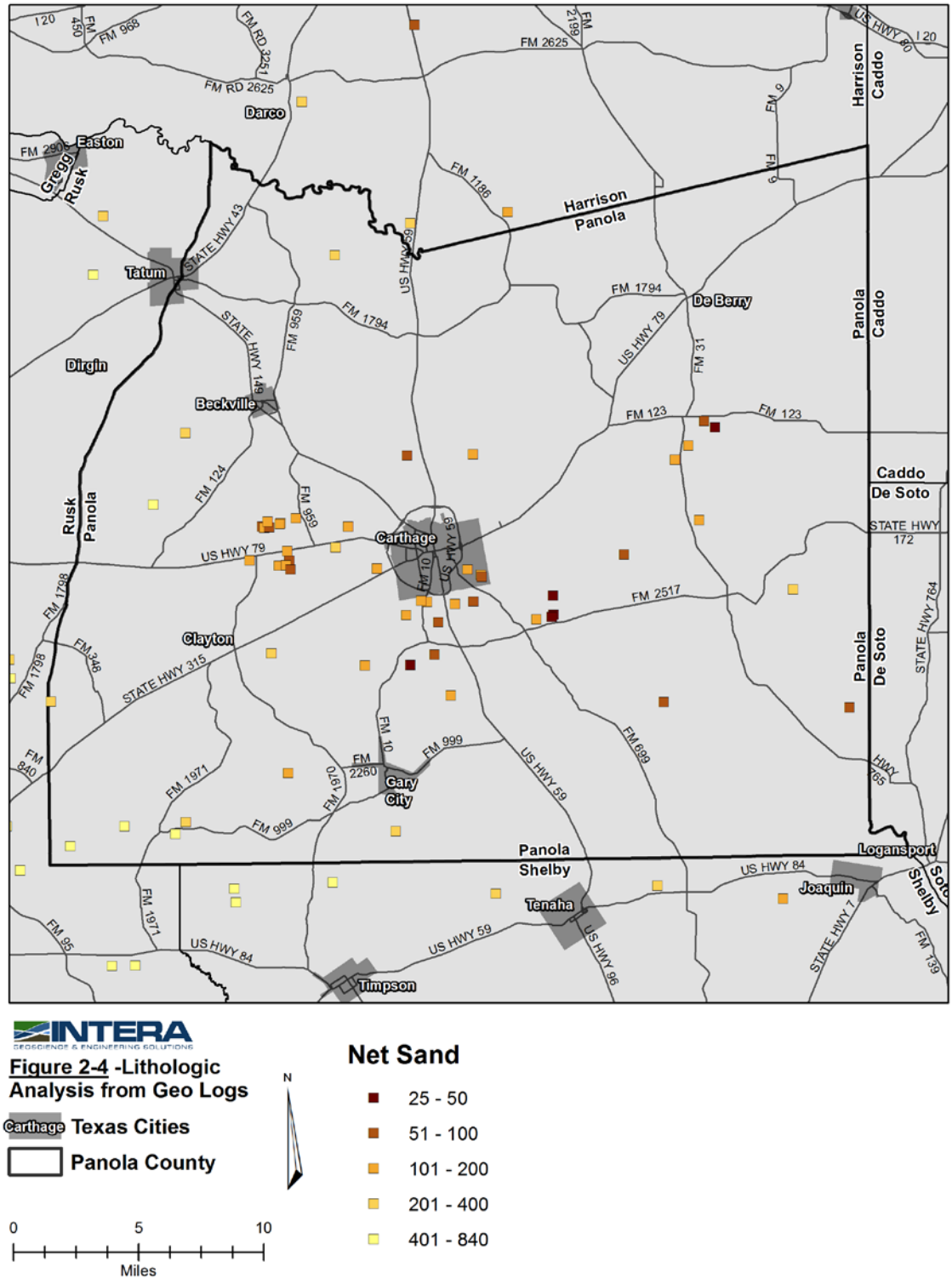

Figure 2-4. Net Sand Thickness (feet) from Geophysical Well Logs

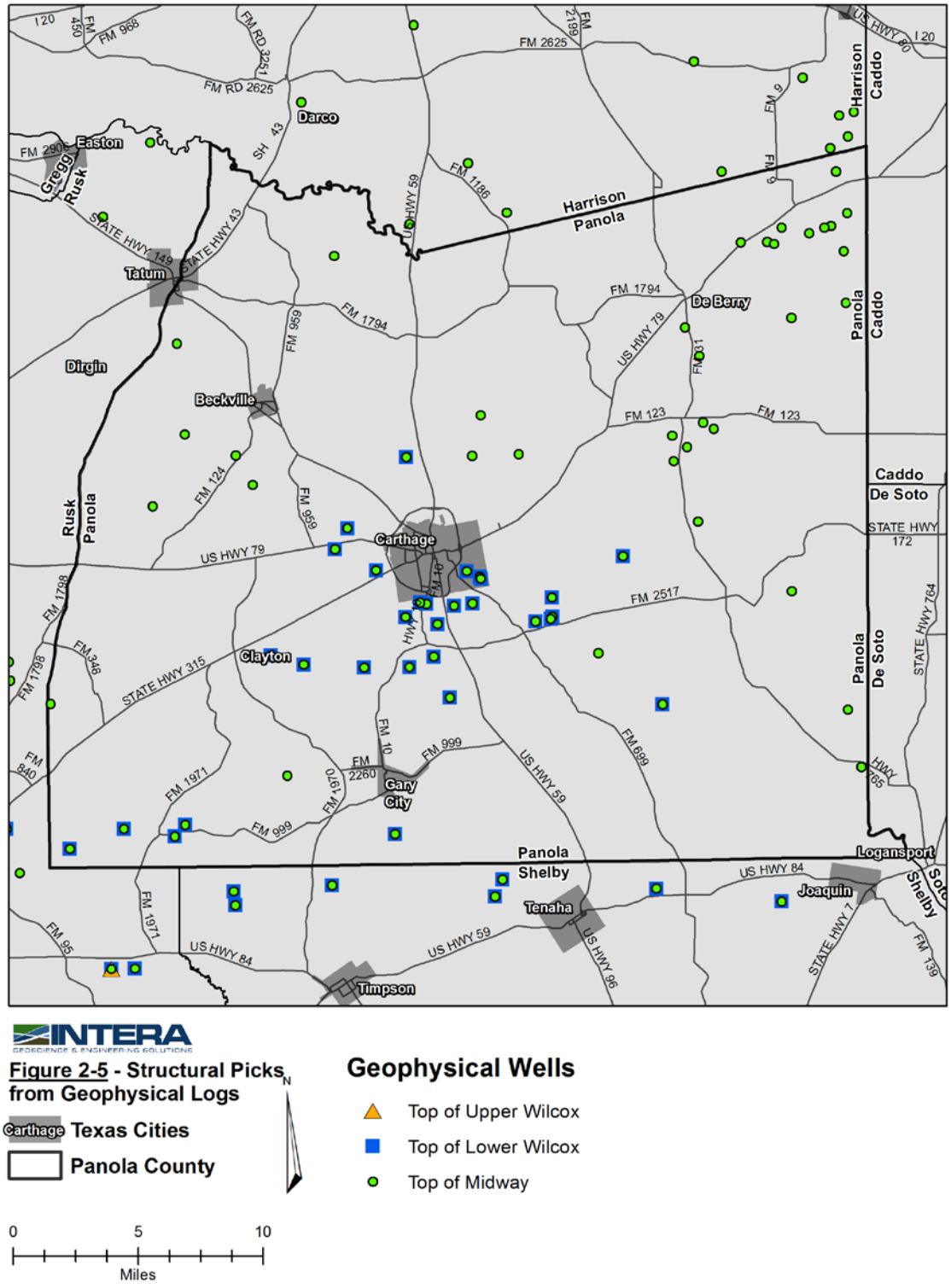

Figure 2-5. Structural Picks from Geophysical Logs

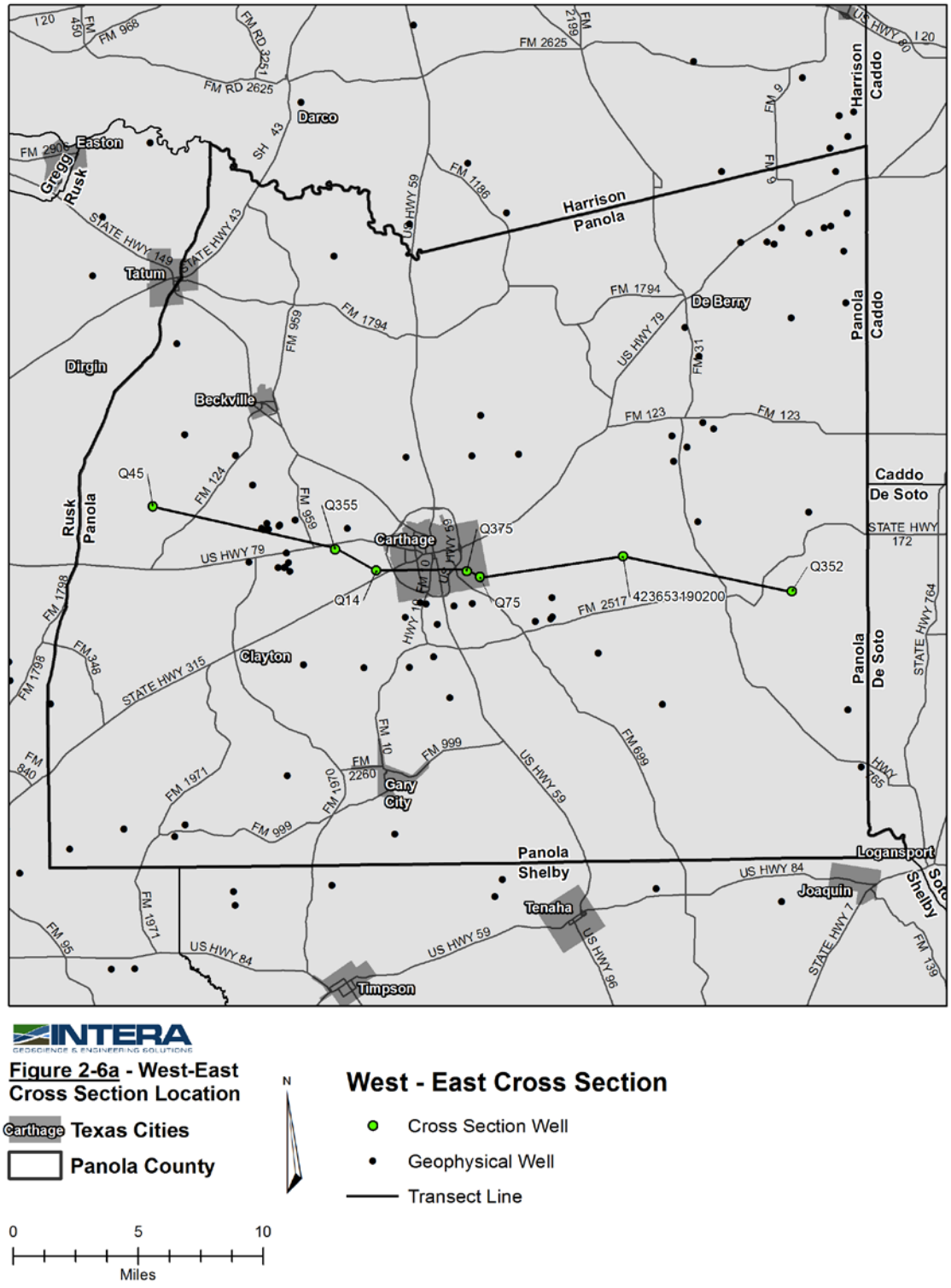

Figure 2-6a. Location Map for West to East Cross Section

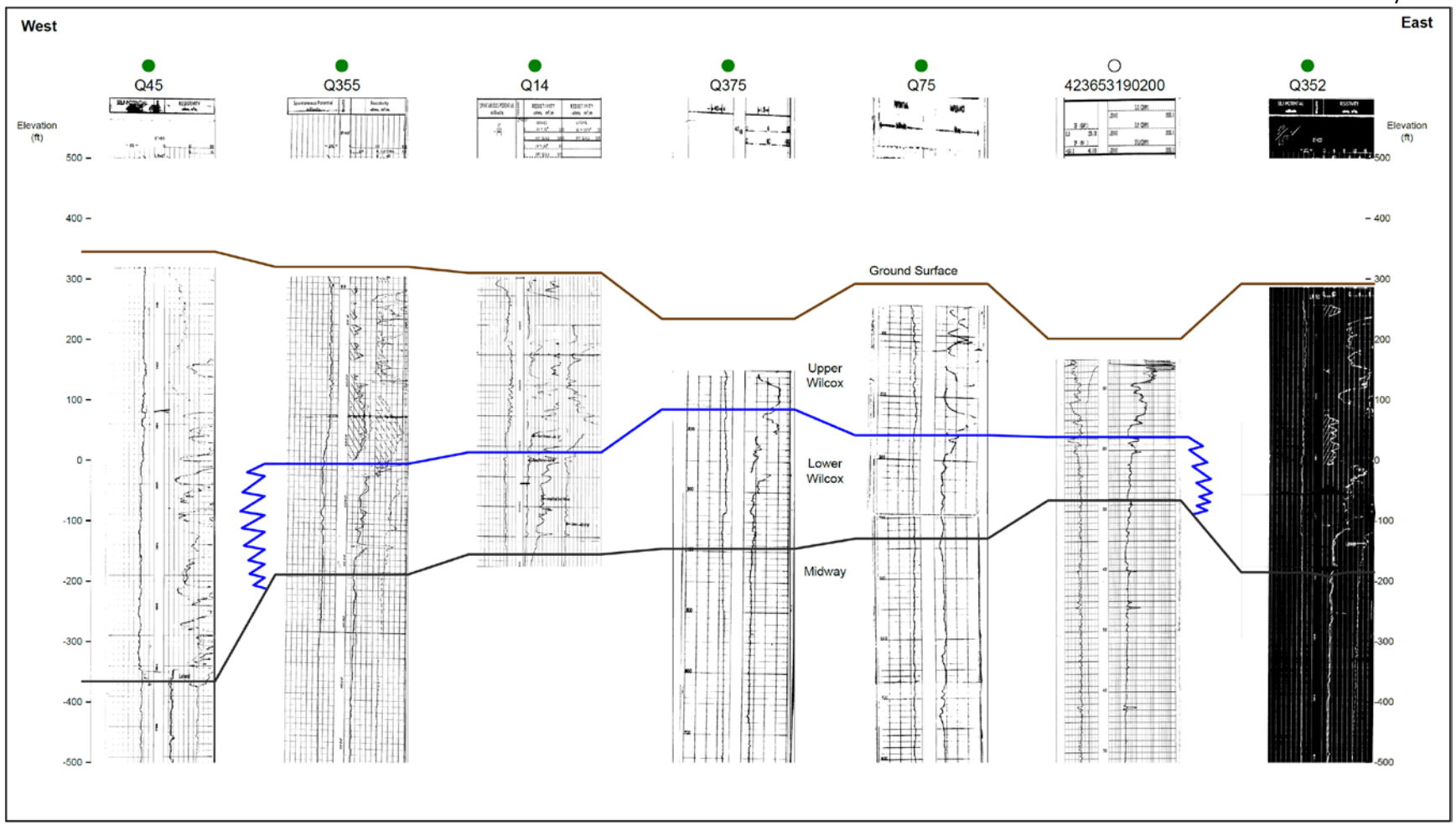

Figure 2-6b
West-East Cross Section

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Figure 2-6b. West to East Cross Section

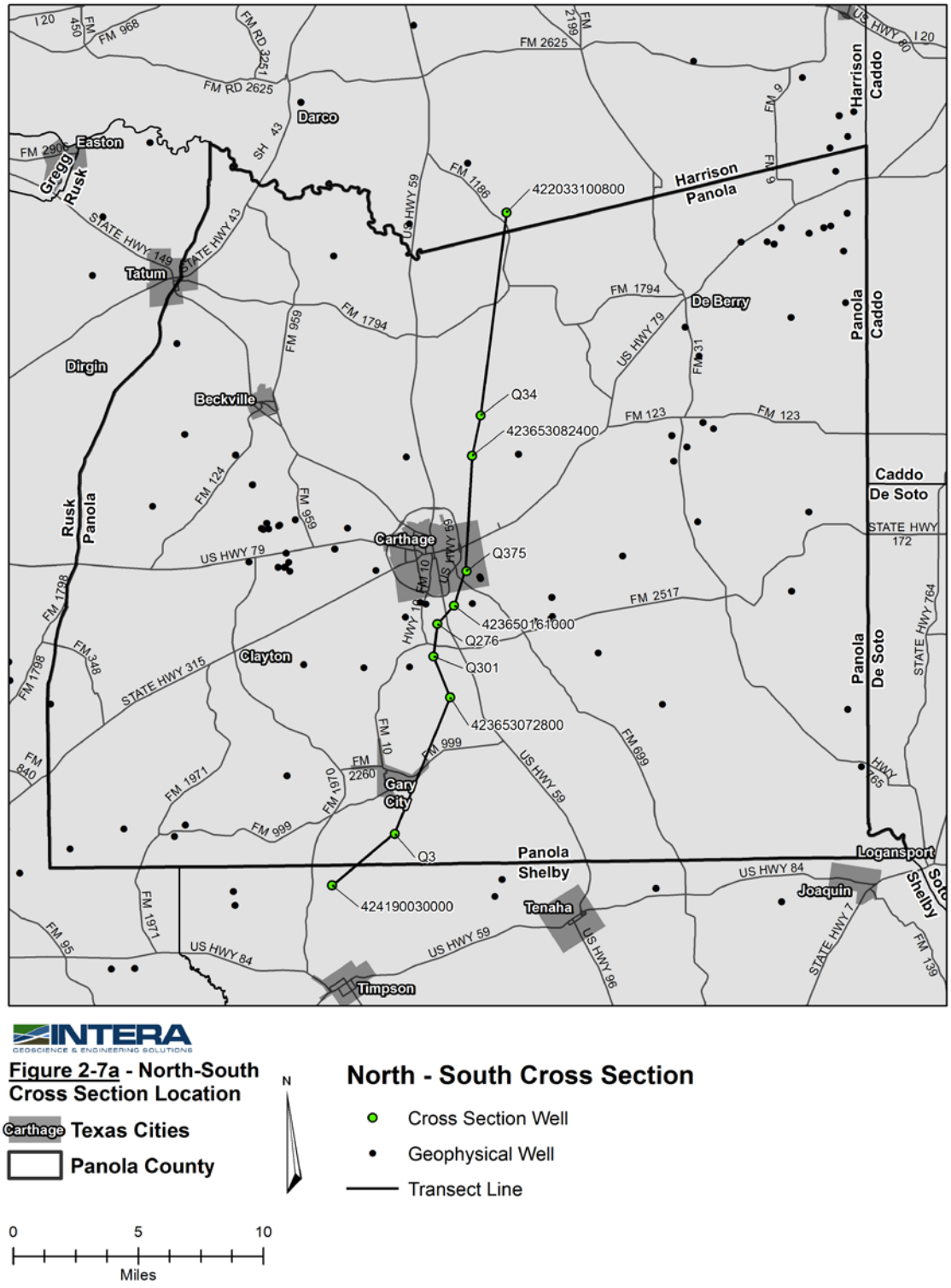

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Figure 2-7a - North-South Cross Section Location

Carthage Texas Cities

Panola County

N

North - South Cross Section

- Cross Section Well
- Geophysical Well
- Transect Line

0 5 10
Miles

Figure 2-7a. Location Map for North to South Cross Section

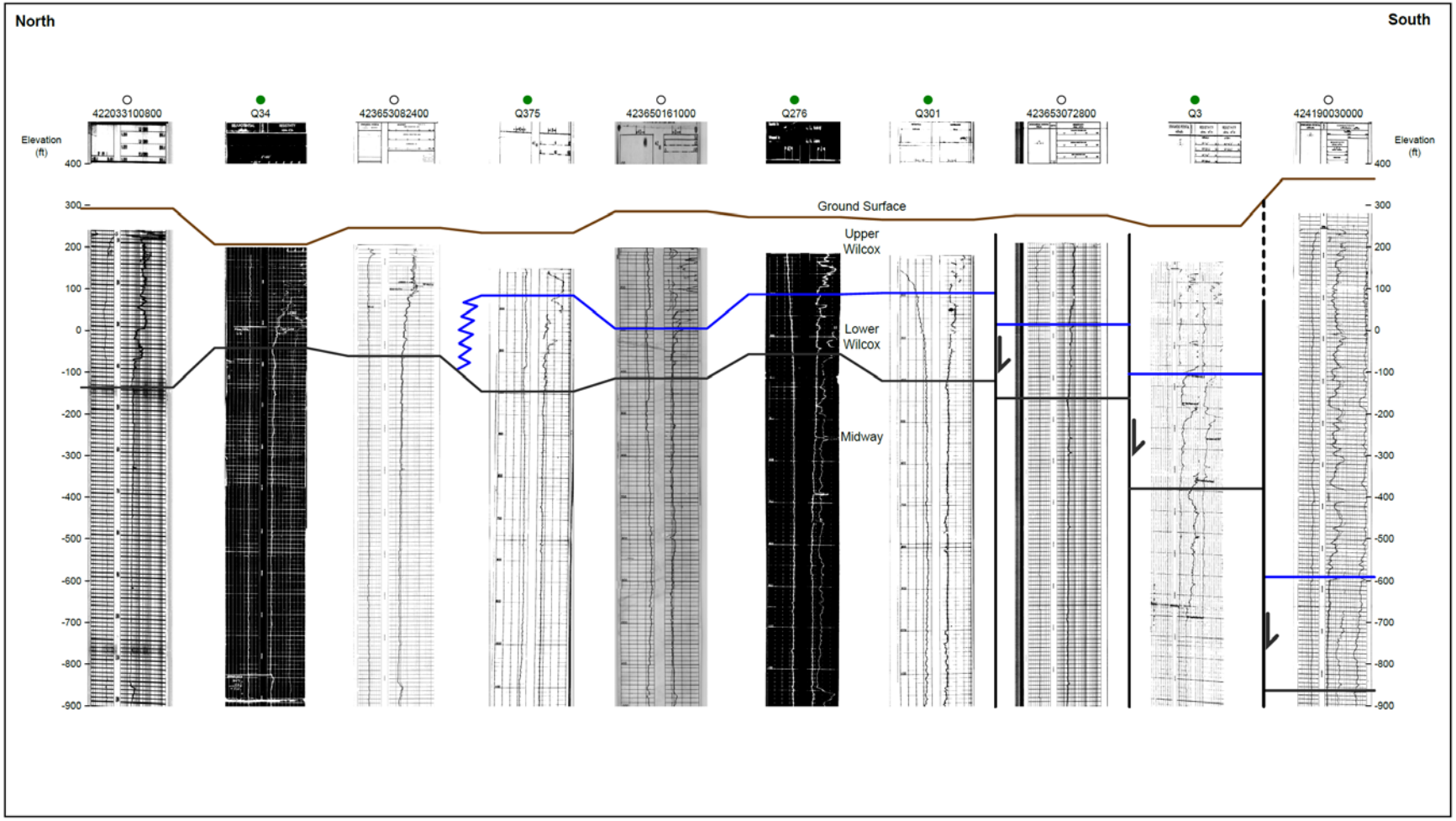

Figure 2-7b
North-South Cross Section

Figure 2-7b. North to South Cross Section

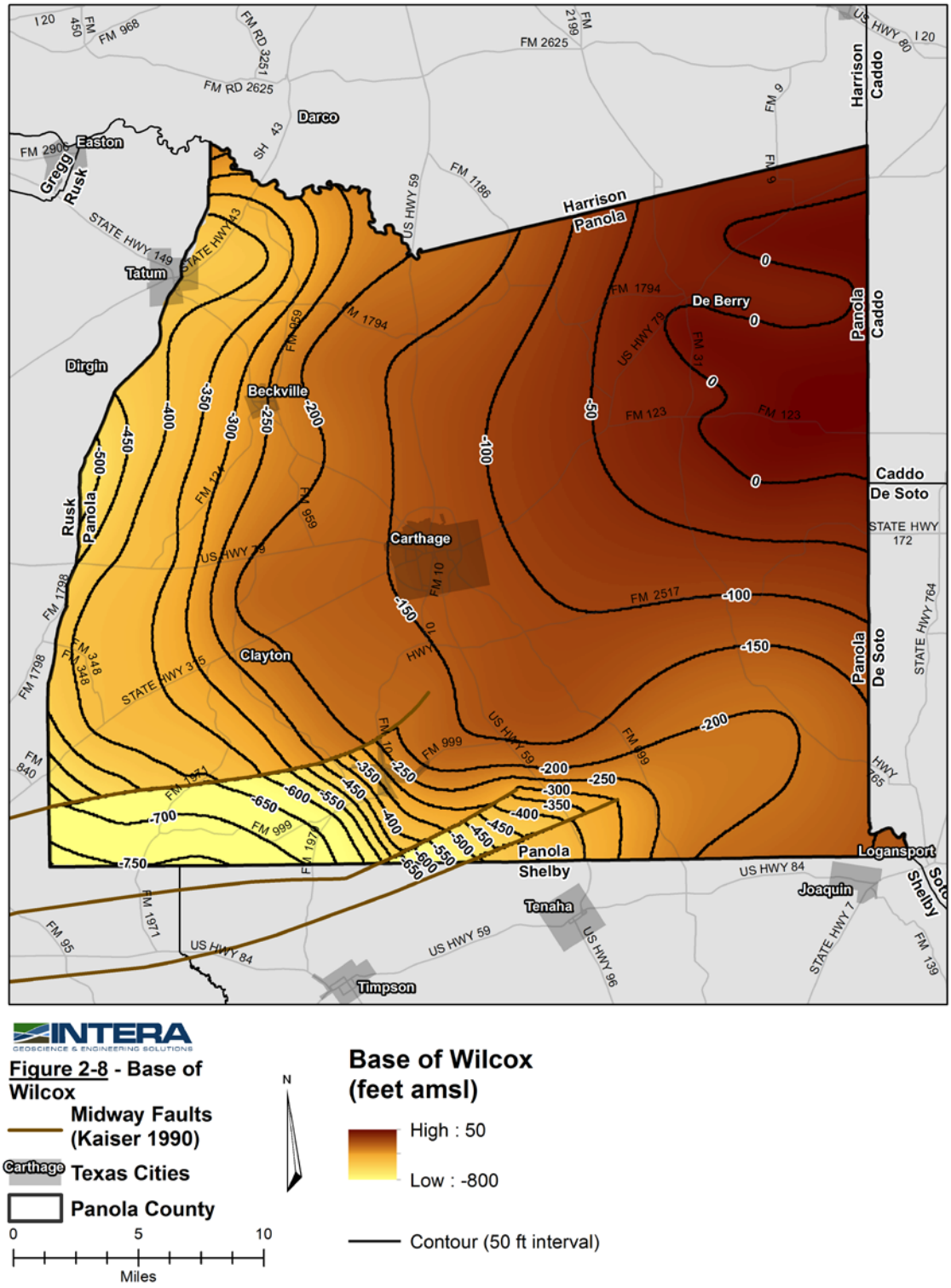

Figure 2-8. Elevation of the Base of Wilcox

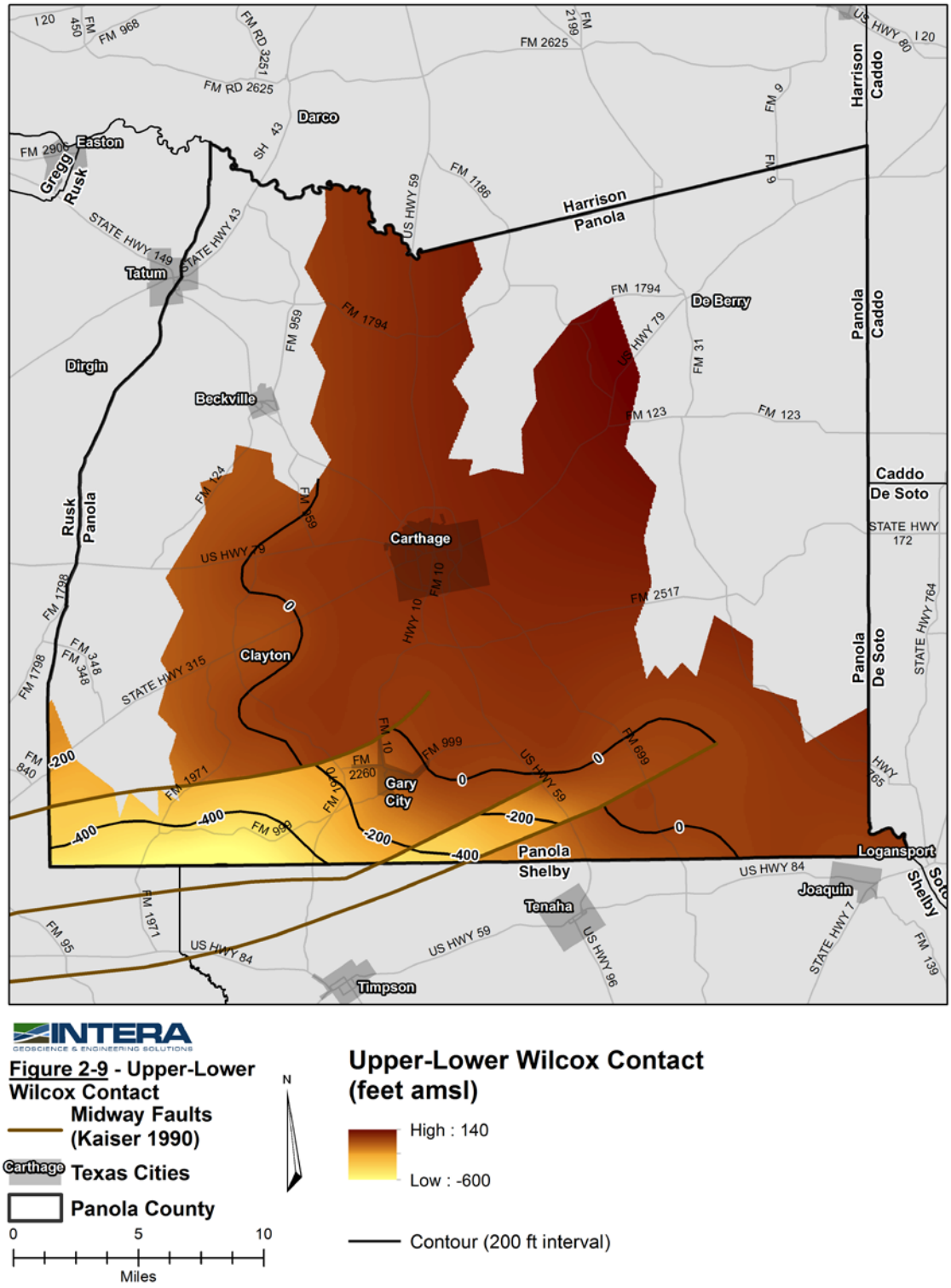

Figure 2-9. Elevation of the Upper-Lower Wilcox Contact

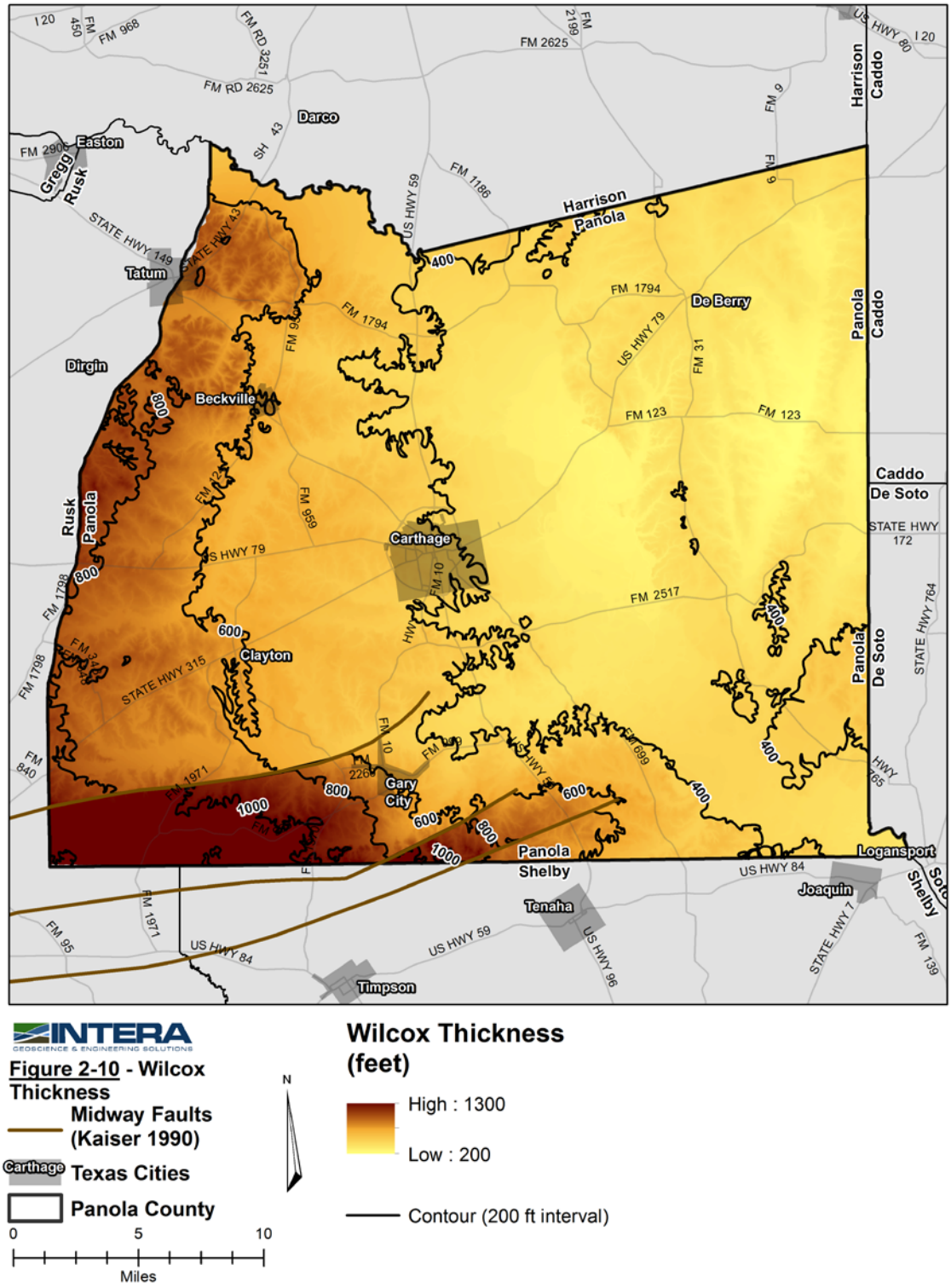

Figure 2-10. Thickness of the Wilcox Group

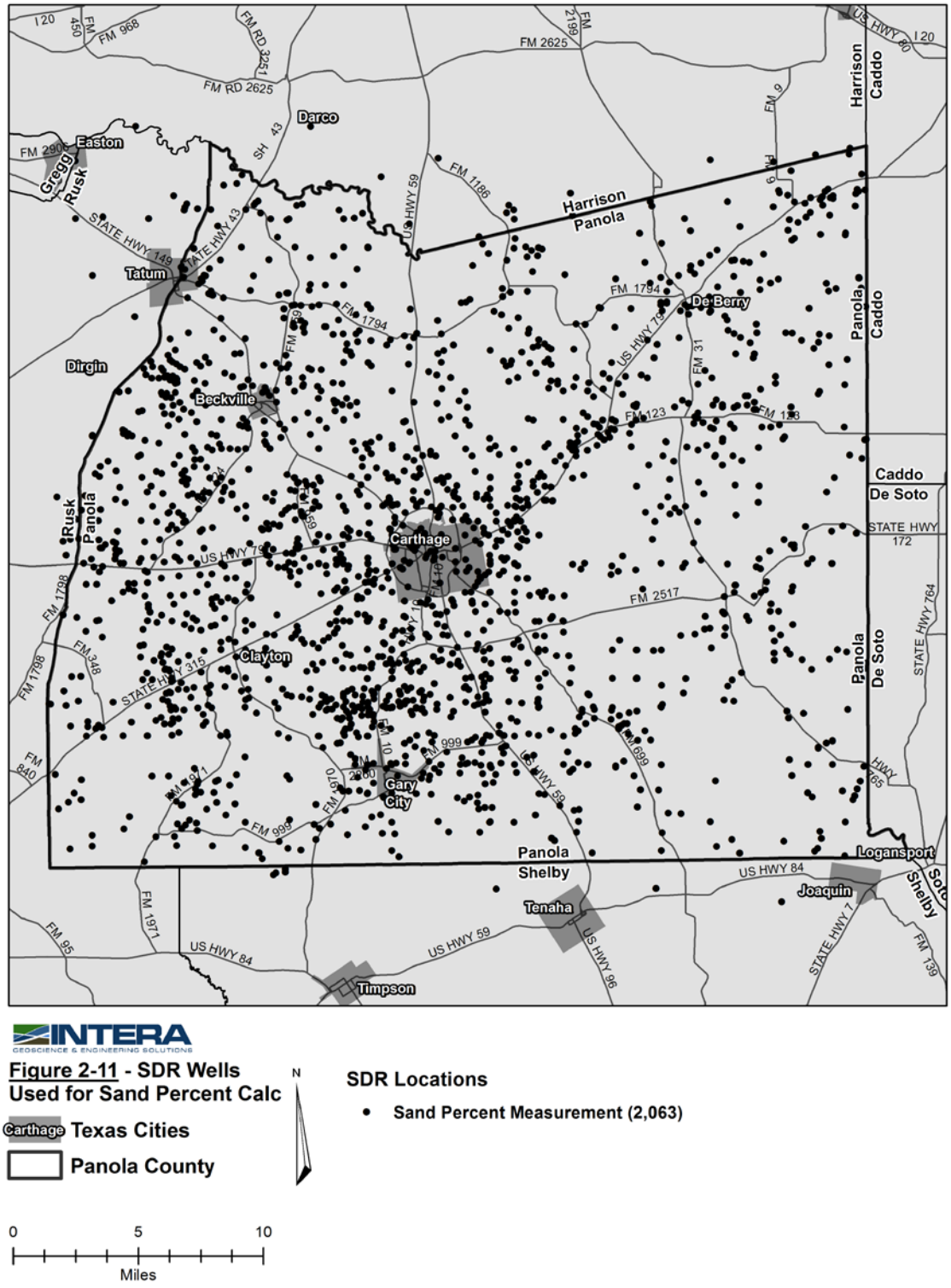

Figure 2-11. Locations of Submitted Drillers Reports (SDRs) from TWDB

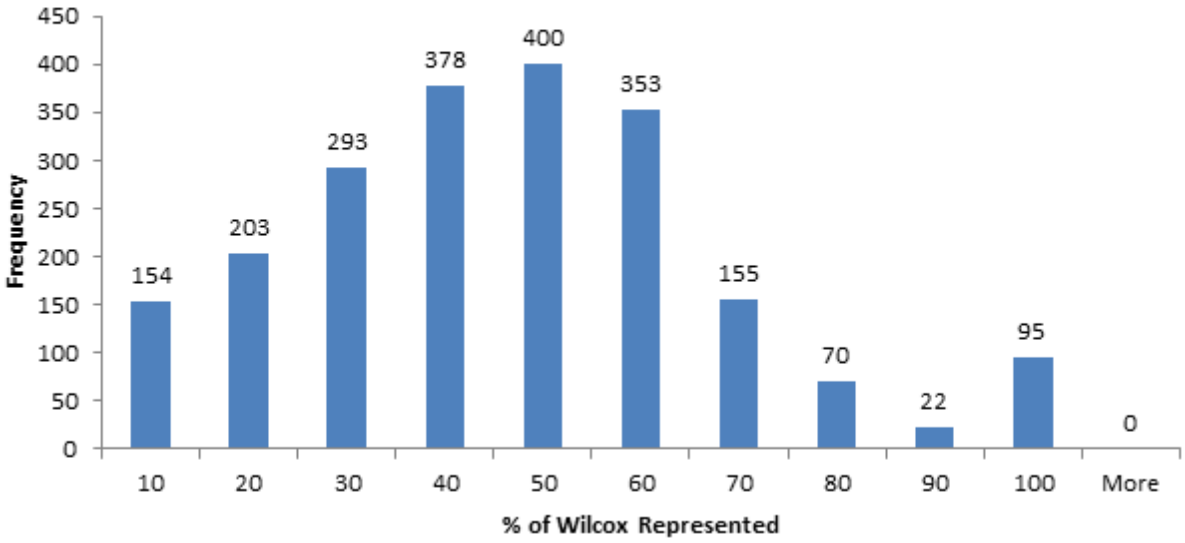

Figure 2-12. Histogram of Percent of Wilcox Represented in Drillers Logs

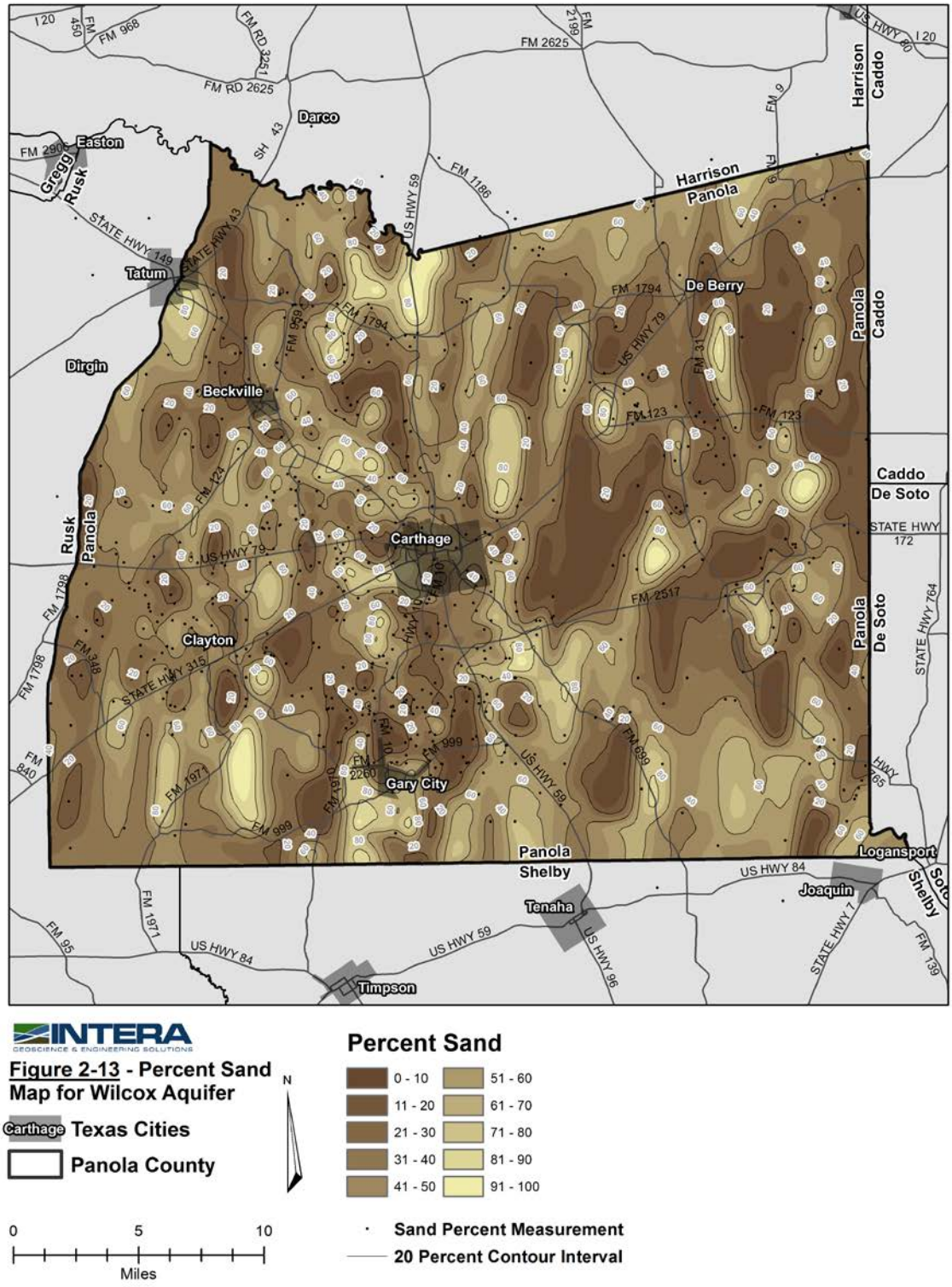

Figure 2-13. Percent Sand in the Wilcox Aquifer

3.0 Hydraulic Property Characterization

Takeaway in Brief

Hydraulic properties such as hydraulic conductivity and storativity are key to defining how water flows through an aquifer and how it responds to pumping. We evaluated the hydraulic properties of the Wilcox in Panola County though the interpretation of aquifer tests from publically available sources and the development procedures for monitoring water levels near oil and gas rig supply water wells.

The hydraulic properties of the Wilcox aquifer are closely related to its composition and are necessary to understand and estimate the response of the aquifer to pumping. Two key hydraulic properties are the formation hydraulic conductivity (which is related to transmissivity) and storativity. Formation hydraulic conductivity describes how easily water can flow through aquifer sediments. Storativity relates to the volume of water the aquifer releases from storage as the hydraulic head (water level as measured in a well) decreases.

To obtain estimates of the aquifer hydraulic properties, aquifer tests are typically conducted following the installation of wells, including most wells for public water supply. Aquifer tests are performed by pumping a well at a constant extraction rate while measuring the changes in water level (drawdown) in the pumping well and/or any nearby monitoring well.

Publically available historical aquifer test data, collected within Panola County, was obtained from various sources. A review and analysis of these data were conducted to obtain estimates of the formation hydraulic properties. In addition, water-level data collected by the PCGCD at a monitoring well located in the vicinity of an active oil and gas water supply well was also analyzed to demonstrate how monitoring activities can be used to evaluate hydraulic properties.

An aquifer test is typically comprised of two phases. The first phase is the drawdown period, when the well is pumping at a constant rate, and the water level in the aquifer near the well is decreasing. The second phase is the recovery period, which starts at the termination of pumping, and the water levels in the aquifer are recovering to the pre-pumping levels. Both phases can be analyzed separately to obtain estimates of the formation hydraulic properties. The majority of the aquifer tests data obtained for the wells in Panola County only included information for the drawdown period, and thus only this information was analyzed.

3.1 Historical Aquifer Tests

Takeaway in Brief

Publically available aquifer tests were compiled from the Texas Commission on Environmental Quality Public Water Supply Well database, from hydrogeologic studies completed for PCGCD well permitting, and estimated from specific capacity. A total of 30 aquifer tests were evaluated for both hydraulic conductivity and storativity. Hydraulic conductivity was estimated from specific capacity information in 1,950 additional wells. Most storativity estimates indicate confined conditions in the aquifer.

Information related to historical aquifer tests was gathered from various sources to provide estimates of formation hydraulic conductivity within Panola County. These sources include the Texas Commission on Environmental Quality (TCEQ), the TWDB, and the PCGCD.

3.1.1 Public Water Supply Wells

Publically available information from the TCEQ was obtained for aquifer tests conducted in public water supply wells located within Panola County and presumed screened within the Wilcox Aquifer. The information was obtained as scanned images of hand-written or typed field notes of recorded water levels and production rates during the aquifer test. The information from the scanned images was then digitized for processing and analysis. A total of 21 aquifer tests had sufficient quantity and quality of water-level drawdown data for analysis. The locations of these 21 aquifer tests are shown in Figure 3-1.

These 21 aquifer tests were analyzed by INTERA using the industry-standard well-test analysis software AQTESOLV (HydroSOLV, 2007). AQTESOLV contains a large suite of analytical solution methods for aquifers conceptualized as unconfined or confined, matrix or fracture flow, leaky responses, multiple potential lateral boundaries and fully or partially penetrating wells. The recorded water-level data over time during the pumping period of the aquifer test is processed to obtain water-level displacement (drawdown) as a function of time since the start of pumping. This data is imported into AQTESOLV, along with well construction and completion information and data on the aquifer configuration and flow model conceptualization. The proper solution method is then selected, and the resultant type-curve is matched to the displacement data to obtain estimates of the formation hydraulic properties.

For the aquifer tests analyzed, the hydrogeological conceptual flow model is assumed to be a confined and non-leaky aquifer with no lateral boundaries (infinite acting). The assumption of a confined system is based on the layering of the sands and clays within the Wilcox and the assumption that the impact of the groundwater pumping is not transmitted vertically through the lower permeable fine-grained layers. As such, the wells were assumed to be fully penetrating because they were screened across the contributing aquifer thickness. Based on these criteria, the Papadopulos-Cooper analytical solution method (Papadopulos and Cooper, 1967) was selected to obtain estimates of the formation transmissivity and storativity. Using the estimated transmissivity value and the aquifer thickness, the formation hydraulic conductivity was then calculated.

Table 3-1 lists the estimated formation hydraulic properties for the public water supply well aquifer tests analyzed. Plots of the observed displacement data overlain with the analytical solution are presented in Appendix A. The analysis results listed in Table 3-1 show a range in formation hydraulic conductivity from 0.7 to 29.4 ft/day, with an average value of 7.7 ft/day and median of 4.3 ft/day. Figure 3-2 presents the estimated formation hydraulic conductivity values overlain on the map of the aquifer test locations (Figure 3-1).

3.1.2 Provided by PCGCD

In addition to the aquifer tests acquired from the TCEQ, the PCGCD provided an additional eight pumping tests performed by various groundwater consultants (Appendix B). The location of these tests are shown in Figure 3-1. The estimated hydraulic conductivity and storativity values provided from these

other analyses are listed in Table 3-2 and shown on Figure 3-2. The hydraulic conductivity ranges from a minimum of 3 ft/day to a maximum of 64.6 ft/day, with a median of 11.9 ft/day. The storativity values estimated from these tests are also shown in Table 3-2. However, these exhibit a very wide range and, in some cases are outside reasonable bounds. For instance, Alexander FP 1 shows a storativity of $4.06x10^{-1}$, which is higher than would be expected in even a clean, fully unconfined sand. Also, Tiller FP 2 and Tiller FP 3 have calculated storativities far below the compressibility of water, which is not physically achievable. The median storativity of $3.7x10^{-4}$ is, however, consistent with results of the other aquifer tests indicating primarily confined conditions in the Wilcox Aquifer in Panola County. Though this differs from the conceptualization of the aquifer in the groundwater availability model (unconfined), it is not unexpected given the interbedded sands and clays of the Wilcox combined with well depths of several hundred feet.

Table 3-1. Estimated formation hydraulic properties from public water supply well tests

**No location information provided for this well so will not show up in Figure 3-1 or 3-2*

Number	Test ID	Saturated Thickness (ft)	Transmissivity (ft^2/ day)	Storativity (-)	Hydraulic Conductivity (ft/day)
1	G1830005D*	30	147	$7.3x10^{-2}$	4.9
2	G1830006C	63	652	$3.2x10^{-4}$	10.3
3	G1830006D	60	83	$1.6x10^{-3}$	1.4
4	G1830007B	84	365	$2.6x10^{-4}$	4.3
5	G1830007C	60	142	$4.7x10^{-5}$	2.4
6	G1830008C	100	78	$9.6x10^{-5}$	0.8
7	G1830008D	120	129	$1.3x10^{-3}$	1.1
8	G1830009B	60	314	$1.2x10^{-5}$	5.2
9	G1830010B	84	161	$2.0x10^{-5}$	1.9
10	G1830011E	50	1471	$3.1x10^{-3}$	29.4
11	G1830014A	24	387	$2.8x10^{-4}$	16.1
12	G1830014B	50	676	$4.9x10^{-4}$	13.5
13	G1830021B	129	1440	$1.0x10^{-3}$	11.2
14	G1830025A	146	99	$3.7x10^{-4}$	0.7
15	G1830025B	107	122	$5.6x10^{-4}$	1.1
16	G1830025C	105	176	$1.5x10^{-4}$	1.7
17	G1830025D	31	713	$6.5x10^{-4}$	23.0
18	G1830025E	100	100	$5.3x10^{-5}$	1.0
19	G1830027A	49	810	$7.7x10^{-4}$	16.5
20	G1830027B	60	821	$8.5x10^{-4}$	13.7
21	G1830030C	60	150	$1.2x10^{-4}$	2.5
	Minimum	**24**	**78**	**$1.2x10^{-5}$**	**0.7**
	Mean	**75**	**430**	**$4.1x10^{-3}$**	**7.7**
	Median	**60**	**176**	**$3.7x10^{-4}$**	**4.3**
	Maximum	**146**	**1471**	**$7.3x10^{-2}$**	**29.4**

Table 3-2. Estimated formation hydraulic properties based on aquifer tests performed for District permitting.

Number	Test ID	Saturated Thickness (ft)	Transmissivity (ft^2/ day)	Storativity (-)	Hydraulic Conductivity (ft/day)
1	Alexander FP 1	184	849.8	$4.06x10^{-1*}$	4.6
2	Alexander FP 2	287	859.7	$1.15x10^{-3}$	3.0
3	Mills FP 1	100	1269.9	$5.81x10^{-8*}$	12.7
4	Mills FP 2	100	1105.3	$8.33x10^{-6*}$	11.1
5	Mills CGU 11-51HH	100	6458.6	$4.43x10^{-4}$	64.6
6	Mills CGU 12-52HH	100	2752.7	$5.20x10^{-4}$	27.5
7	Tiller FP 2	210	1695.2	$3.07x10^{-17*}$	8.1
8	Tiller FP 3	210	6913.1	$5.22x10^{-24*}$	32.9
	Minimum	**100**	**850**	**$5.2x10^{-24}$**	**3.0**
	Mean	**161**	**2738**	**$5.1x10^{-2}$**	**20.6**
	Median	**142**	**1483**	**$2.3x10^{-4}$**	**11.9**
	Maximum	**287**	**6913**	**$4.1x10^{-1}$**	**64.6**

**Several of the reported storativity estimates are outside reasonable bounds*

3.1.3 Groundwater Availabilty Model Tests

Mace et al. (2000) developed a database of 7,402 estimates of hydraulic properties in 4,456 groundwater wells in the Carrizo-Wilcox aquifer in Texas. The estimates were based on analysis of both aquifer test data and specific capacity measurements from submitted driller's reports (SDRs).

When a water well is drilled, the driller will sometimes perform a crude aquifer test in an attempt to appropriately size the groundwater pump. The driller may record the groundwater flow rate and the total drawdown at the end of the pumping period. Using these two pieces of information, the specific capacity of the well can be determined by taking the ratio of the flow rate to the total drawdown. The units for specific capacity are gallons per minute per foot (gpm/ft).

One result of Mace et al.'s (2000) work was that they used wells that had both a specific capacity measurement and an aquifer test-derived transmissivity measurement to develop a relationship between the two parameters. A total of 217 wells for the entire Carrizo-Wilcox aquifer were used to develop a best-fit line using a least square regression. The resulting best fit line had an R^2 of 0.91 and is represented by the following equation:

$$T = 1.99Sc^{0.84}$$

where the units of transmissivity (T) and specific conductivity (S_c) are in ft^2/day. Using this relationship, the remaining specific capacity measurements were converted into transmissivity estimates.

The Mace et al. (2000) data were integrated into the groundwater availability model for the Northern Carrizo-Wilcox Aquifer as documented by Fryar et al. (2003). This data was accessed by INTERA from the TWDB and is treated as the best data on hydraulic properties in the study area prior to year 2001.

Within Panola County, INTERA was able to access a total of 293 tests. The transmissivity values were then converted into hydraulic conductivity using the total screen length as the aquifer thickness. The calculated hydraulic conductivity values for this dataset resulted in a minimum of 0.4, a mean of 10.6 and a maximum of 671 ft/day (Figure 3-3). The entire dataset is provided in Appendix C.

3.1.4 Post-2001 Specific Capacity Tests

As required by the TWDB, SDRs completed after 2001 are filed electronically by the driller with the data stored in a database format. This database was accessed for wells located within Panola County and completed in the Wilcox aquifer. If the well had data in the yield (gpm), drawdown (ft), and test duration fields, the specific capacity was calculated. All of these values were tabulated, and the relationship between specific capacity and transmissivity in Section 3.1.3 was used to obtain a transmissivity estimate at each well.

The gravel pack length was considered as representative of the aquifer thickness for conversion from transmissivity to hydraulic conductivity. This evaluation resulted in 1,657 hydraulic conductivity values, with a minimum of 0.1, a mean of 6.6 and a maximum of 131.7 ft/day. These hydraulic conductivity estimates are shown in Figure 3-4. The data utilized in these calculations is provided in Appendix D.

3.2 Ongoing Aquifer Responses

Takeaway in Brief

For the District to be able to gather sufficient information to evaluate hydraulic properties, we purchased and delivered to PCGCD a down-hole transducer for continuous monitoring of water levels. We also developed procedures for operating the transducer and selecting appropriate well pairs. To demonstrate the use of the transducer and the information it can collect, we implemented an aquifer test with District staff near a water supply well used for oil and gas operations. The water level declines and pumping rates were used to evaluate hydraulic conductivity and storativity at the site.

Expanding the availability of hydraulic property information can be a very valuable function of the District in improving the understanding of the aquifer. There are currently a large number of oil and gas industry-related water production wells pumping water from the Wilcox Aquifer, providing supply water to hydraulic fracturing operations. As these production wells are pumping water from the aquifer, the drawdown within the aquifer surrounding the production well can be monitored via a series of non-producing (monitoring) water wells. By monitoring the water levels in non-pumping wells located near these production wells, and by knowing the production rates over time in the pumping well, the formation hydraulic properties can be estimated with minimal to no disruption of the oil and gas operations.

When possible, PCGCD regularly monitors water levels near wells that are being pumped to supply water for hydraulic fracturing operations. The water levels are measured manually, with measurements taken every couple weeks to a month. This frequency of measurements is insufficient for estimating formation hydraulic properties. To obtain water-level measurements at the necessary frequency, INTERA purchased and delivered to the District an electronic sensor that can be deployed in a well which

will record the water level (hydraulic head), temperature and specific conductance at a defined frequency. The sensor, an In-Situ Aqua TROLL 200©, is internally powered and stores the three records in internal memory. A cable extending from the sensor to the ground surface allows for retrieval of the stored data records without removal of the sensor.

A review of the production and monitoring wells across the PCGCD was conducted to identify pairs of production and monitoring wells that could be used to obtain information for estimating formation hydraulic properties. Guidelines developed for conducting a review of appropriate well pairs for monitoring are presented in Appendix E. Figures 3-5a and 3-5b present a plot of the production and monitoring wells included in the review. Following the guidelines listed in Appendix E, the well pair of production well Soap 15 and monitoring well Brewster 16 was selected (Figure 3-5b). The wells are similar in total depth and are screened across similar depth intervals (Table 3-3). In addition, the wells are relatively close to each other at a distance of 1,584 ft, with no other production wells located in the vicinity and thus reduced potential for interference effects.

Table 3-3. Information related to selected well pair for monitoring of water levels.

Item	Soap 15	Brewster 16
Radial Distance from Soap 15 (ft)	--	1,584
Screen Interval (ft bgs)	255 to 315	250 to 310
Total Depth (ft bgs)	320	310

bgs: below ground surface

The downhole sensor was installed in monitoring well Brewster 16 on February 13, 2015. Guidelines developed for configuring, installing, retrieving data, and removal of the downhole sensor are presented in Appendix E. The data recorded with the sensor from February 13 to March 5, 2015 is presented in Figure 3-6. The data shows an overall decline in the water levels (depth to water), except for two recovery periods on February 19th and February 26th to 27th. Groundwater production data provided by the owner of Soap 15 indicates an average production rate of approximately 50 gpm. However, no specific data was available for when production periodically ceased, so it was assumed that the two recovery periods in Brewster 16 data correlate to periods of non-production in Soap 15. The data also show constant temperature and a relatively constant specific conductance over time (Figure 3-6).

Because the sensor started recording the Brewster 16 water-level data after the production in Soap 15 commenced, additional manually collected data recorded by PCGCD was used to determine the pre-test static water level. Figure 3-7 presents the combined manually and sensor collected depth to water data starting on October 3, 2014. The manually collected data indicates a static water level of approximately 38 ft (horizontal red line) below the common measurement point. The data curve indicates a decline in the water level from static, corresponding to start of pumping in Soap 15, at some time between November 24 and December 29, 2014.

As part of the analysis method for estimating hydraulic formation properties, the time at which the pumping was initiated in the pumping well (Soap 15) must be known to provide for a determination of the delay from when the pumping is initiated and the water-level drawdown was first observed in the monitoring well (Brewster 16). Because this time frame is unknown, several start times were estimated, and the sensitivity to the estimated hydraulic parameters was evaluated. As the water-level drawdown at early-time is not linear, the slanted red line in Figure 3-7 shows that the initiation of pumping must have occurred after the intersection with the static-water level on approximately December 10, 2014. Using scientific judgement to manually recreate the expected shape of the water-level drawdown curve, three potential starting dates of December 15th, 19th, and 26th were selected with pumping assumed to have initiated at 12:00 PM. The calculated water-level drawdown (head displacement) curves for these three starting times are presented in Figure 3-8.

Following the same process as noted above in Section 3.1, these three data curves were imported into the AQTESOLV well-test analysis software package and analyzed using the Papadopulos-Cooper analytical solution method. The analytical fits to the data curves were based on an average pumping rate of 49 gpm over the entire duration of the data set, while ignoring the two recovery periods due to lack of specific information. The best fit solutions to all three data curves are presented in Figure 3-9, along with the estimated formation hydraulic parameters. The estimated transmissivity values ranged from 54.5 to 72.4 ft^2/day, which is approximately 30 percent change in the value between the two bounding start times. Using a saturated thickness of 60 ft (screened interval), the resultant hydraulic conductivity range is from 0.9 to 1.2 ft/day. This range in hydraulic conductivity is at the low end of the range presented in Table 3-1 for the analysis of the historical aquifer test information. The estimated storativity was 3.5x10^{-4}, which is consistent with results in Tables 3-1 and 3-2 and indicative of confined aquifer conditions.

3.3 Summary of Hydraulic Properties

Takeaway in Brief

The hydraulic conductivity and storativity estimates developed from the sources described in the previous section were compiled. Representative hydraulic conductivities among the aquifer tests were generally from 1 to 12 feet per day, though some were outside this range. Hydraulic conductivities estimated from specific capacity tests exhibited a larger range, but the median values were similar to those from aquifer tests. Storativity estimates indicate confined conditions in the aquifer, which differs from the conceptualization of an unconfined aquifer in the current groundwater availability model.

A summary of the hydraulic conductivity estimates for each data source is listed in Table 3-4. The overall range in the estimates is over three orders of magnitude. The range in the median values for all sources is from 1 to 12 ft/day. The range in estimated values based on the analysis of aquifer tests is smaller than that for the estimates based on the specific capacity measurements. This larger range is expected, given the limited data collected for specific capacity measurements and the uncertainty in the transmissivity estimates based on using the developed relationship.

Storativity is best characterized through aquifer tests using multiple wells (i.e. one or more observation wells in addition to the pumping well), though results shown here include both single- and multiple-well tests. Storativity for an unconfined aquifer – where the aquifer is dewatered – is typically 0.05 to 0.3. Storativity for a confined aquifer – where the aquifer is not dewatered, just depressurized – is typically 10^{-3} to 10^{-5}.

Table 3-5 shows the median storativity among the aquifer tests gathered, conducted and interpreted for this study. In each case, the median storativity of the aquifer is approximately $3x10^{-4}$, indicating a confined response to pumping. This is to be expected due to the interbedded sands and clays of the Wilcox, but differs from the conceptualization of the aquifer as unconfined in the current groundwater availability model (Fryar and others, 2003) since the Wilcox is in outcrop in Panola County. Only 2 of the 30 tests in this study for which storativity could be estimated exhibited unconfined responses (G180005D and Alexander FP 1).

Table 3-4. Summary of hydraulic conductivity estimates.

Data Source	Test Type(s)	Hydraulic Conductivity (ft/day)		
		Minimum	Median	Maximum
Public Water Supply Wells	Single-Well	0.7	4.3	29.4
Provided by PCGCD	Multiple-Well	3.0	11.9	64.6
Groundwater Availability Model Tests	Single-Well and Specific Capacity	0.4	3.4	671
Post-2001 Specific Capacity Tests	Specific Capacity	0.1	1.9	131.7
Ongoing Aquifer Testing	Multiple-Well	--	1.0	--

Table 3-5. Summary of storativity estimates.

Data Source	Test Type	Median Storativity
Public Water Supply Wells	Single-Well	$3.7x10^{-4}$
Provided by PCGCD	Multiple-Well	$2.3x10^{-4}$
Ongoing Aquifer Testing	Multiple-Well	$3.5x10^{-4}$

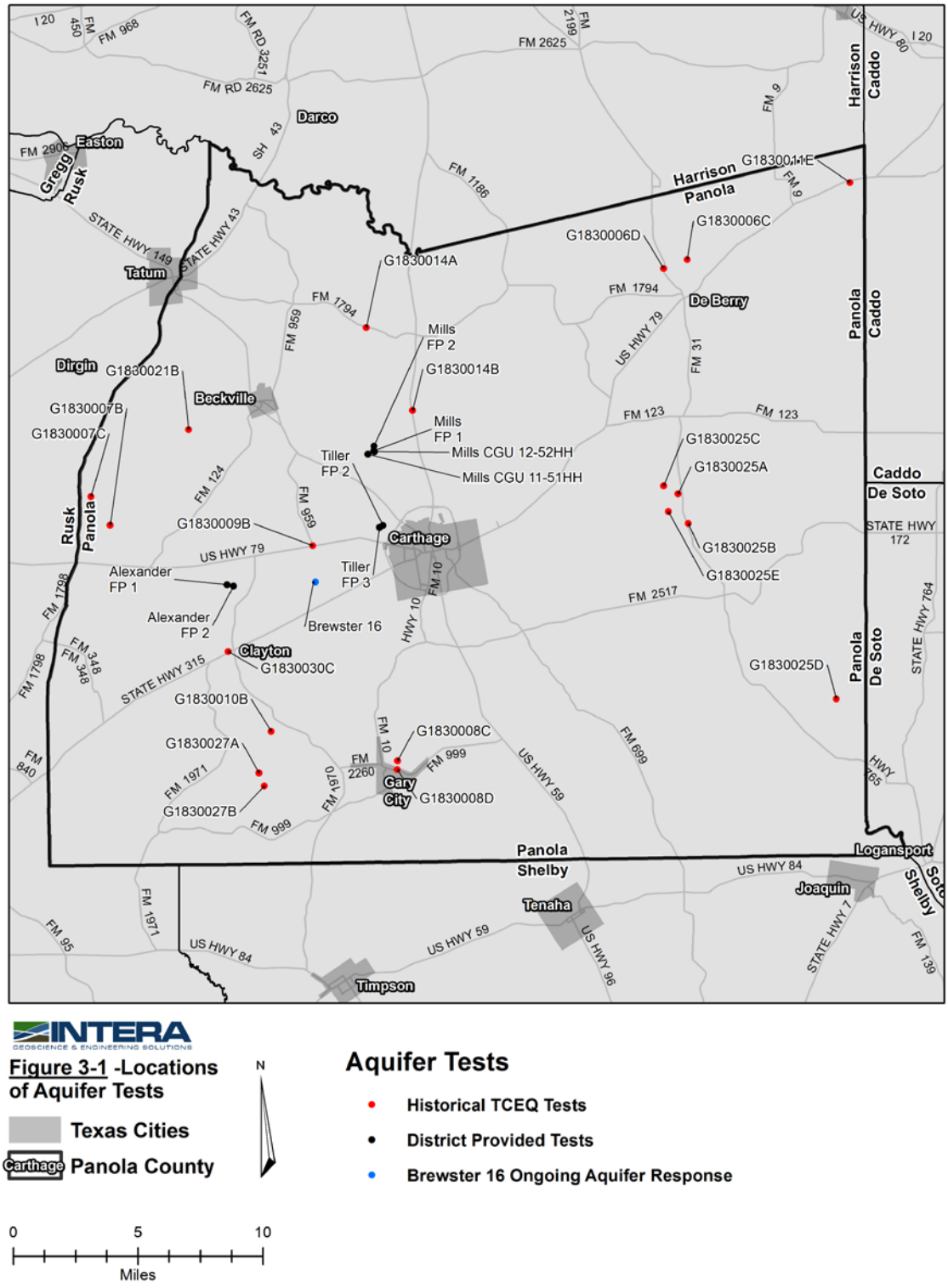

Figure 3-1. Locations of Aquifer Tests

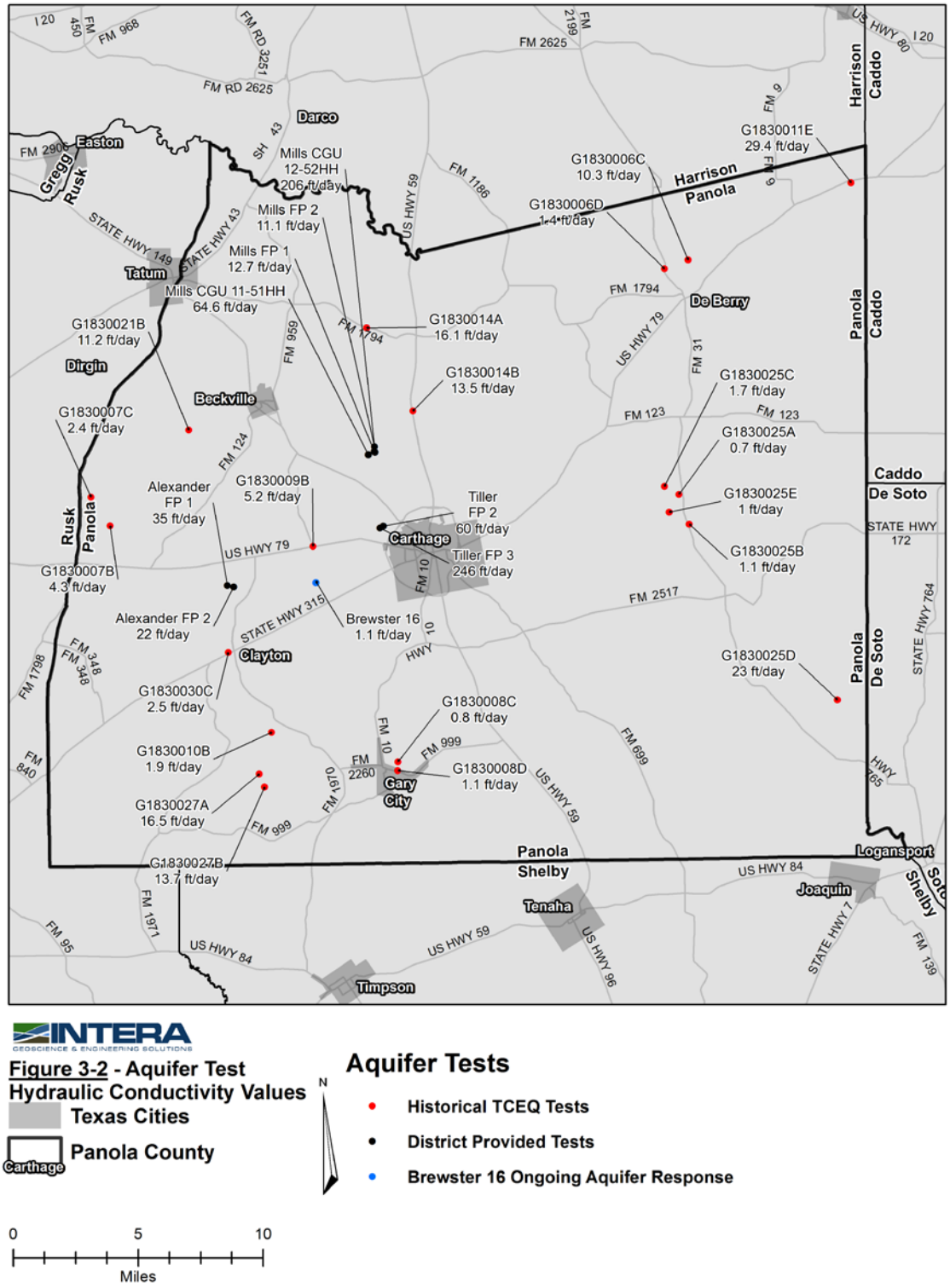

Figure 3-2. Estimated Hydraulic Conductivities from Aquifer Tests

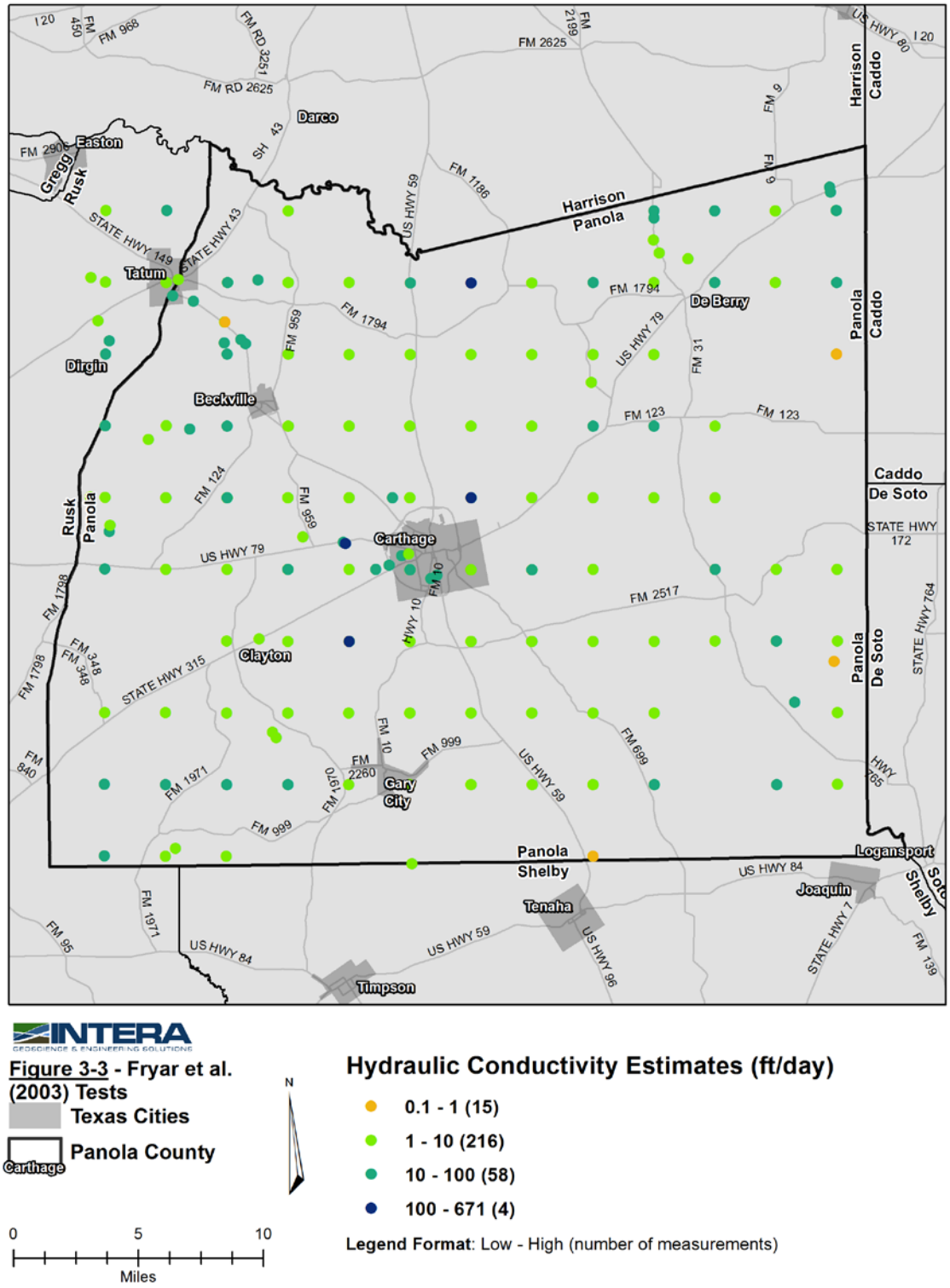

Figure 3-3. Estimated Hydraulic Conductivity from GAM Input Data

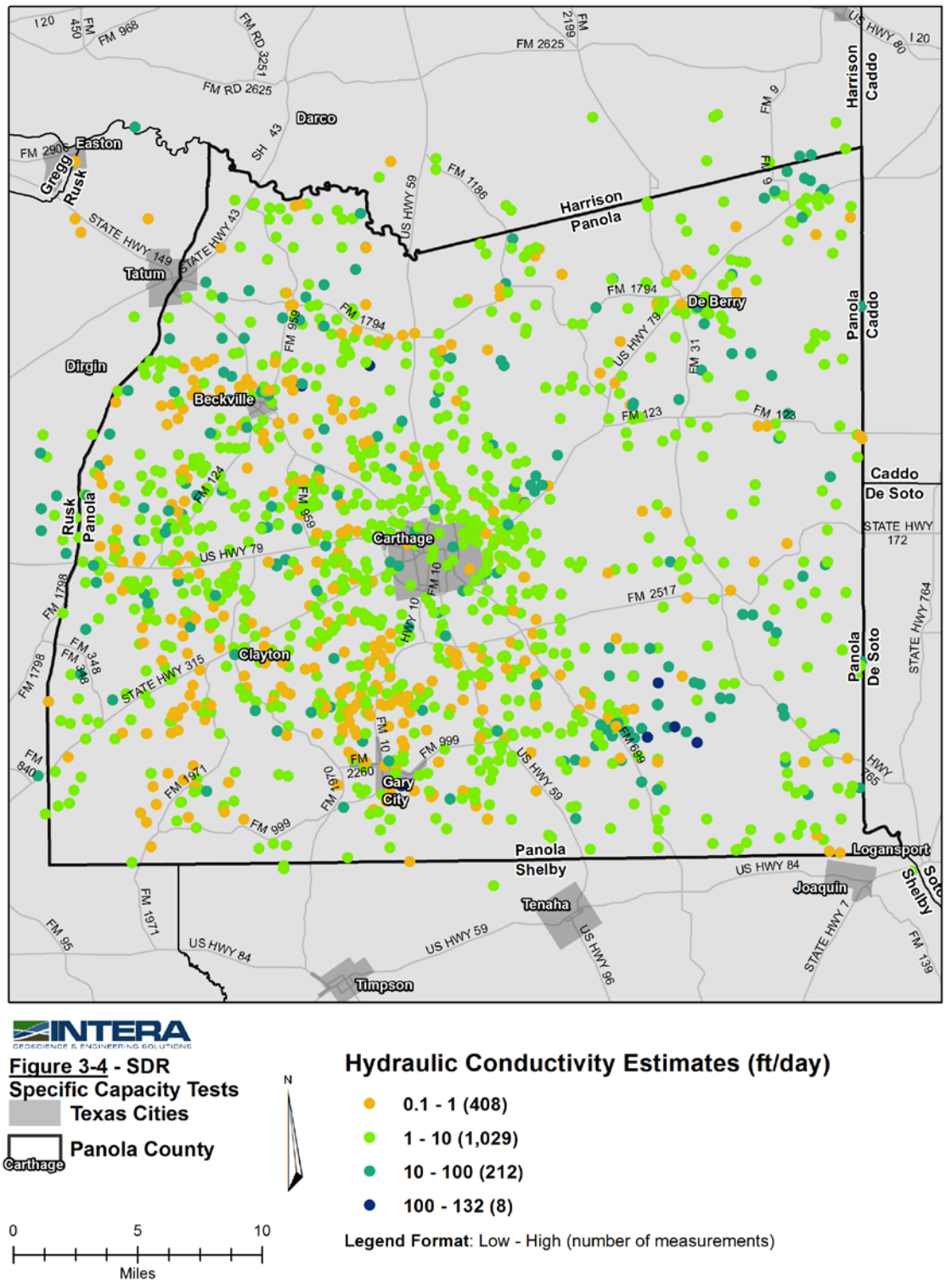

Figure 3-4. Hydraulic Conductivity Estimated from Submitted Drillers Reports

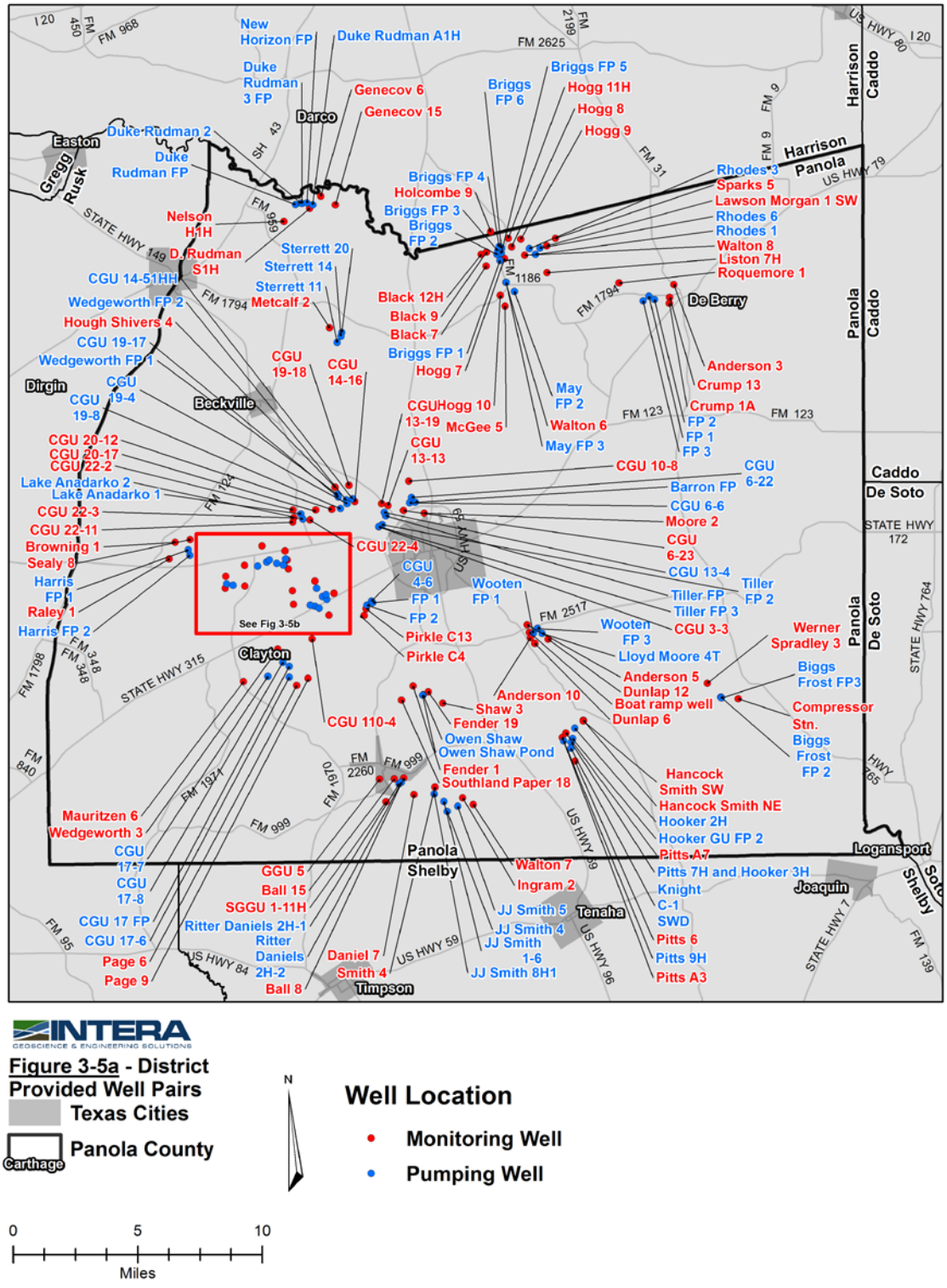

Figure 3-5a. Candidate Production and Monitoring Well Pairs for Aquifer Test

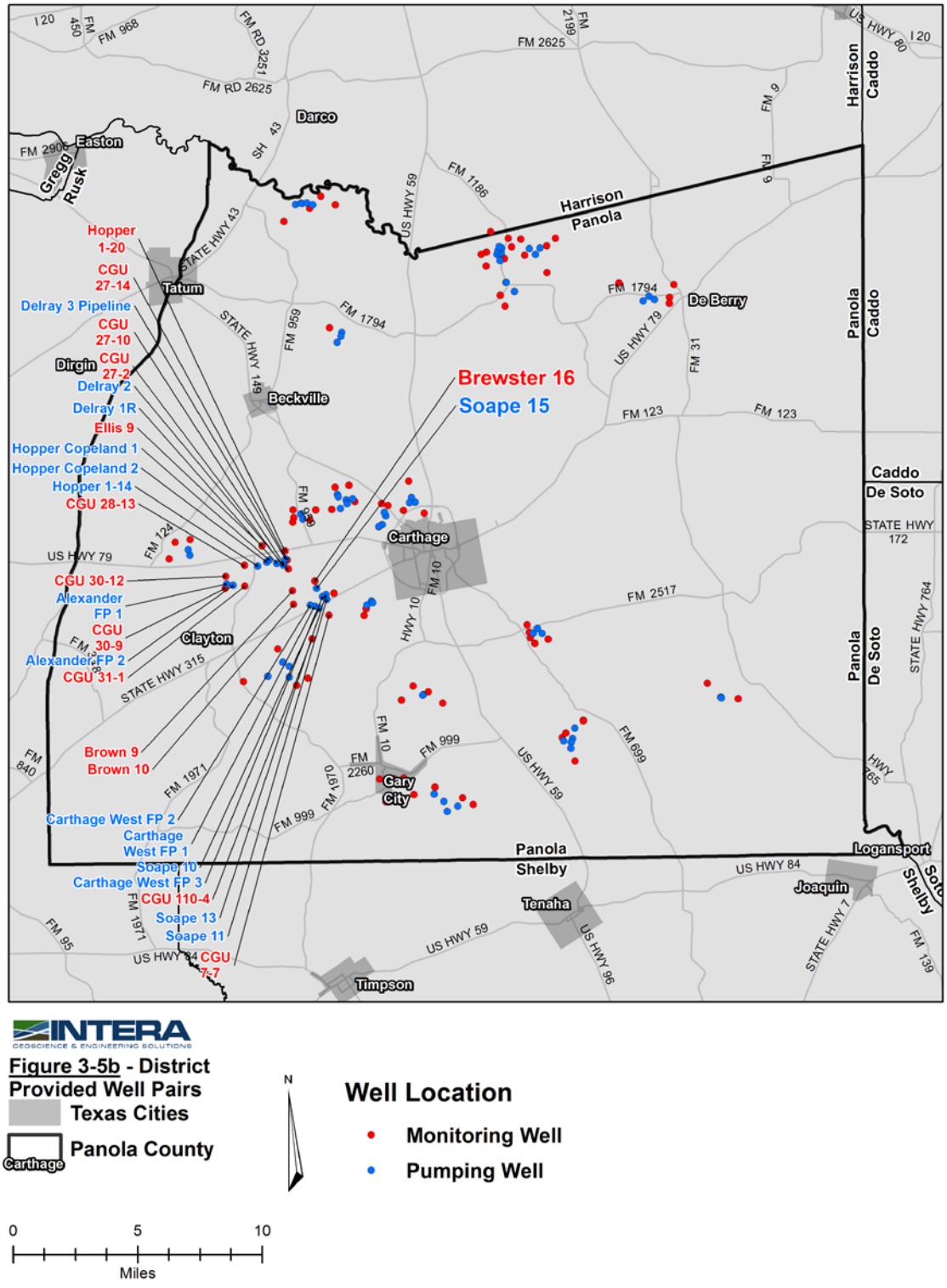

Figure 3-5a. Candidate Production and Monitoring Well Pairs for Aquifer Test (cont.)

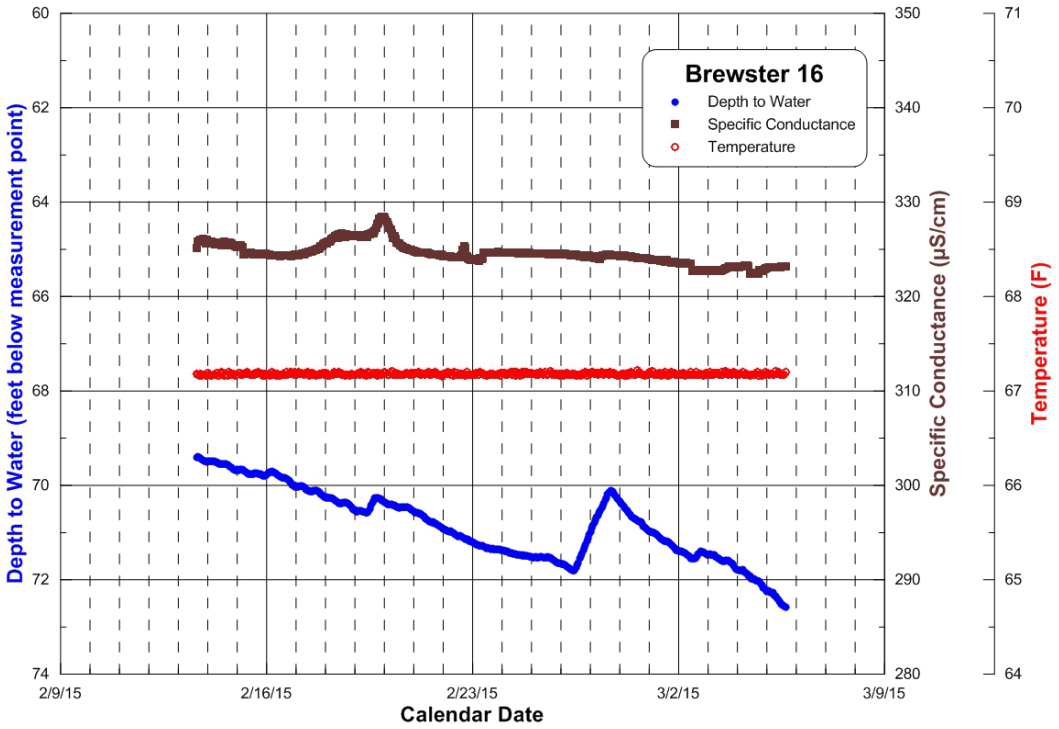

Figure 3-6. Sensor Data Measured from February 13 to March 5, 2015.

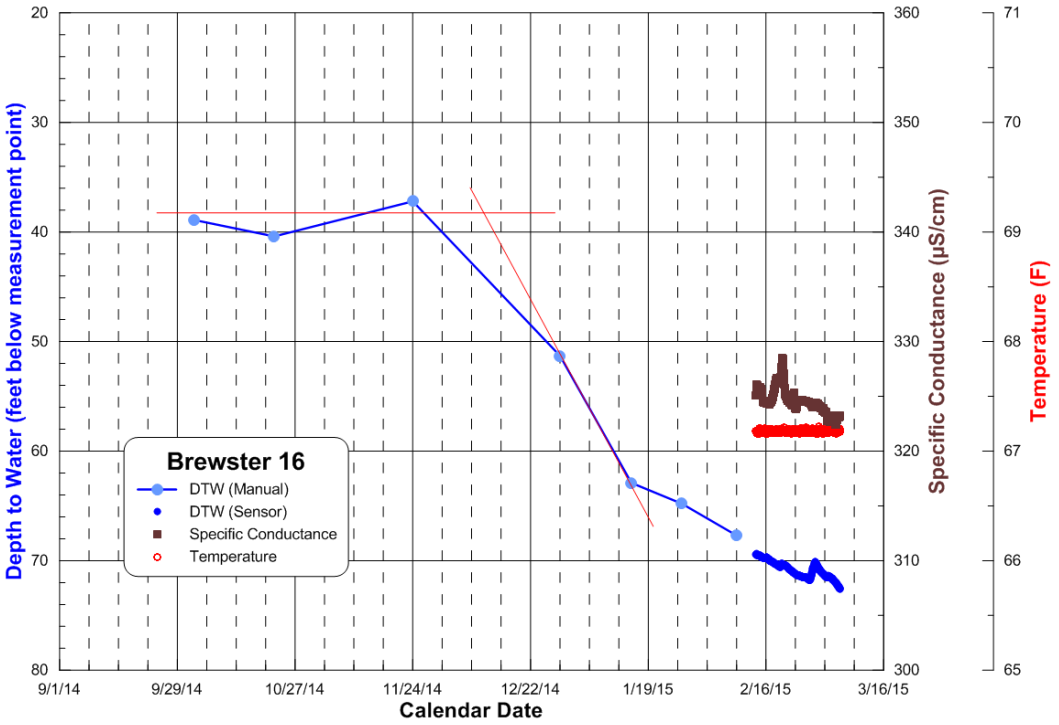

Figure 3-7. Manual and Sensor Data Measured from September 2014 to March 2015.

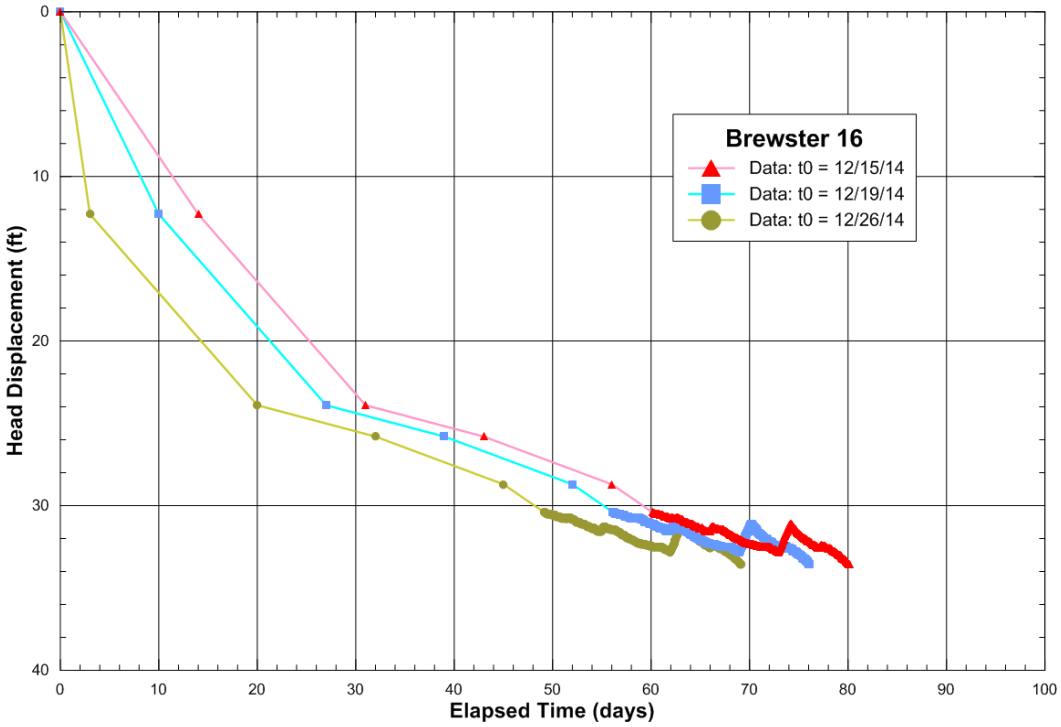

Figure 3-8. Drawdown Based on Three Production Start Times.

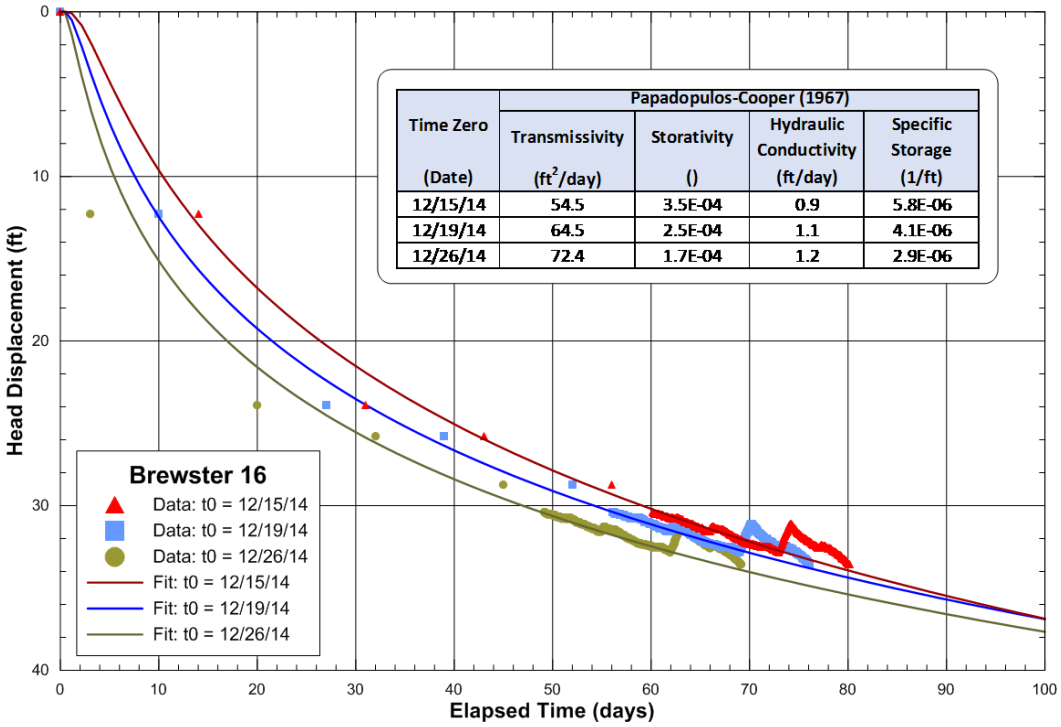

Figure 3-9. Analytical Solution Fits to the Drawdown Data.

4.0 Phase 1 Conclusions

4.1 Correlation of Lithology to Aquifer Properties

Takeaway in Brief

Aquifer properties discussed in Section 3 above were compared to the sand percent discussed in Section 2 to look for a relationship. Conceptually, the greater the percent sand, the higher the hydraulic conductivity should be. However, similar to some previous investigations, no clear relationship could be found. This indicates either that a higher resolution of lithology is necessary to develop a relationship or, more likely, that other factors such as the interconnectivity of sand lenses play a larger role in aquifer productivity.

The distribution of percent sands was interpolated using Petra's® "Highly Connected Features (Least Square)" interpolation package, with a spatial trend in the north-south direction. Petra® is a database and GIS software commonly used in the oil and gas industry to evaluate geophysical logs and develop spatial trends in geologic formation. Spatial trends in the north-south direction were taken from Kaiser (1990) and represent sediment provenance areas to the north (paleo-Ouachitas), with fluvial axes oriented in the north-south direction. While Kaiser (1990) portrayed his interpolated sand maps as laterally continuous, INTERA choose not to follow that same trend for two primary reasons: 1) INTERA's data density was much higher, and the data showed that the features were disconnected and 2) the study area is in the updip outcropped portions of the Carrizo-Wilcox Aquifer, and it is likely that any continuous fluvial axis would be bisected and subsequently eroded by fluvial systems that washed across the area after the Wilcox was deposited.

Intuitively, hydraulic conductivity should be positively correlated with percent sand. That is, in areas with high sand percent, there should be higher hydraulic conductivity values. In areas with lower sand percent, there should be lower hydraulic conductivity values. The following is a summary from Mace et al (2000) concerning the relationship between hydraulic conductivity and sand thickness: "Henry and others (1979, 1980) reported hydraulic conductivities of 20-66 ft/day for the Simsboro and Calvert Bluff sands and 3 to 6 ft/day for the interchannel muds. Fogg (1986) found that thicker channel-fill sands in the Wilcox Group were more permeable and continuous than sands deposited in the adjacent floodplain and interchannel basins. Thorkinson and Price (1991) reported hydraulic conductivities ranging from 20 to 60 feet/day in the channel sand deposits and 3 to 7 ft/day in the interchannel muds."

While it seemed there was background data to suggest otherwise, no statistically significant relationship between hydraulic conductivity and sand percent data could be developed for the study area. These findings are consistent with Prudic (1991), who also did not find a conclusive relationship between hydraulic conductivity and sand thickness for the entire region (Mace et al, 2000). Points with hydraulic conductivity measurements were sampled to the percent sand map developed by the lithologic analysis, and the resulting values were plotted to determine a regression equation to best fit the data. R^2 values for the entire hydraulic conductivity dataset (district provided and INTERA analyzed tests (Figure 3-2), Brewster ongoing aquifer response (Figure 3-2), hydraulic conductivity values form the Northern Carrizo-

Wilcox GAM (Figure 3-3) and hydraulic conductivity values from Submitted Driller's Reports (Figure 3-4)) sampled to the percent sand map (Figure 2-13) were extremely low, signifying no statistical correlation.

Subsequent analysis focused on breaking out the hydraulic conductivity measurements by the percent of the Carrizo-Wilcox aquifer that was being represented by the lithologic analysis (Figure 2-13), the idea being that the more representative the lithologic log is of the entire thickness of the aquifer, the better it will represent the distribution of sands and clays. One major issue with this approach is that, as the percent of the Wilcox evaluated goes higher, the number of wells used to interpolate the percent sands goes down. In addition to a lower number of wells, the wells are not regularly distributed, which results in trends developed in an area with good data density being interpolated over large areas with poor to no data density. The resulting regressions between percent sands and wells lithologically logged over 60, 70, 80, 90 and 100 percent of the Carrizo-Wilcox aquifer showed no increase in the correlation coefficient value, signifying no significant statistical correlation.

4.2 Study Implications

Takeaway in Brief

The first phase of the hydrogeologic study documented in this report provides important information on the aquifer structure, lithology and hydraulic properties that is necessary to evaluate local- and regional-scale pumping impacts. Some of the study findings, such as the confined response of the aquifer to pumping, may require particular attention due to their implications for groundwater management.

This hydrogeologic study of the Wilcox Aquifer in Panola County focused on developing the foundation of information necessary to inform management of the aquifer. The structure of the aquifer was evaluated to develop a high-resolution picture of the depth and thickness of the Wilcox. Additionally, the spatial and vertical extent of the lower Wilcox was delineated to ensure the District has the ability to manage it separately if it chooses to do so.

The lithologic makeup of the Wilcox was also evaluated using a wide variety of data sources. While the District and water well drillers understand that conditions in the aquifer can change quickly over short distances, this analysis of sands and clays better shows where and why this is the case.

Hydraulic properties of an aquifer such as hydraulic conductivity and storativity define how water flows through the aquifer and how it responds to pumping. Having the existing information on hydraulic properties from a wide array of sources compiled enables the District to make the best management decisions possible. Good information on hydraulic properties is essential to understand local and regional impacts of pumping

One outcome of this study is that the hydraulic properties gathered through aquifer tests interpreted by both INTERA and other hydrogeologic consulting firms indicated a confined response of the aquifer to pumping. Though Panola County is in the outcrop area of the Wilcox (which is traditionally assumed to be an unconfined area of the aquifer), this is not surprising given the interbedded sands and clays within the Wilcox. Except for very shallow wells or wells in river alluvium, the District can expect a confined response to pumping.

A significance of the confined response to pumping is that confined aquifers generally have much greater and broader reaching drawdowns for a given amount of pumping than unconfined aquifers. This is because, in an unconfined aquifer, the aquifer pore spaces dewater as the water level declines. In a confined aquifer, the aquifer remains fully saturated and water level declines represent a loss of pressure in the aquifer. The groundwater availability model for the aquifer used by the Texas Water Development Board for the development of modeled available groundwater assumes unconfined conditions throughout Panola County. Given this mismatch between the model and on-the-ground conditions, the District will need to take care to adopt management goals that can be achieved. The relationship between pumping and drawdown in the regional-scale groundwater availability model will need to be closely evaluated to determine if they are appropriate for Panola County.

The information developed for Phase 1 of this study, which is documented here, gives the District the necessary foundation on which to evaluate local- and regional-scale pumping impacts. This enables the District to better assess the impacts of new wells on nearby wells and develop long-term management goals that reflect aquifer conditions in Panola County.

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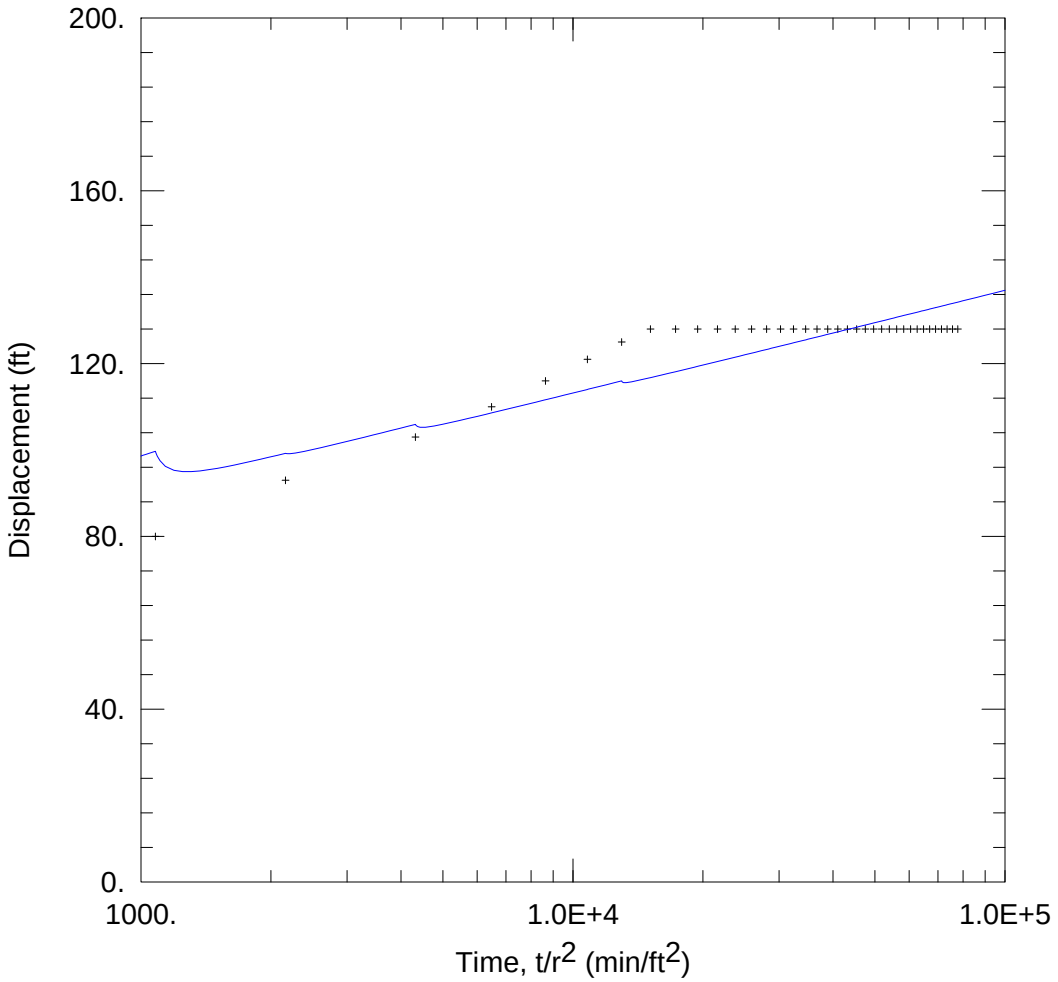
APPENDIX A

Aquifer Test Analysis Plots



WELL TEST ANALYSIS

Data Set: S:\...\Panola_05D.aqt
Date: 07/07/15 Time: 13:12:37

PROJECT INFORMATION

Company: INTERA
Client: Panola
Test Well: 183007C
Test Date: Unknown

AQUIFER DATA

Saturated Thickness: 226. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
05D	0	0

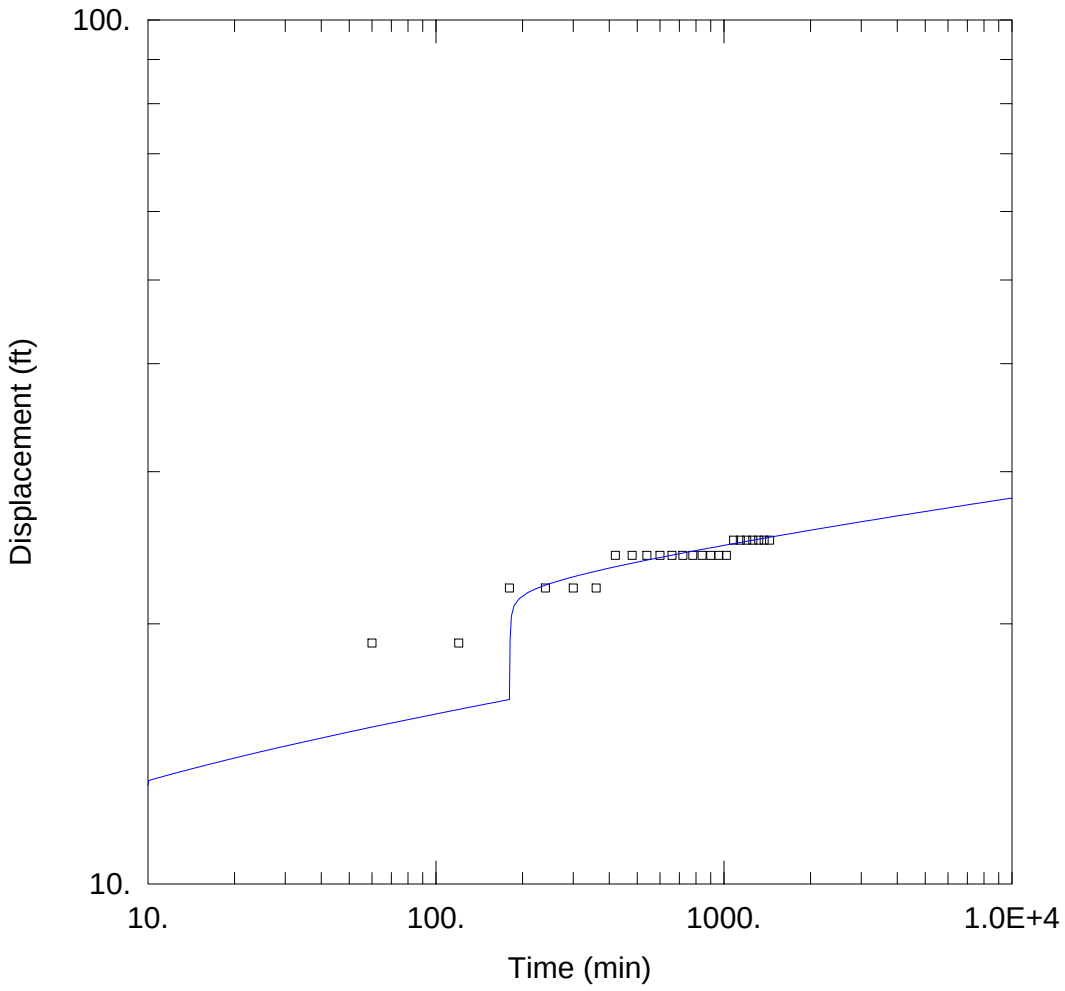
Observation Wells

Well Name	X (ft)	Y (ft)
+ 05D	0	0

SOLUTION

Aquifer Model: Confined Solution Method: Papadopulos-Cooper

T = 147.2 ft^2/day S = 0.07333
r(w) = 0.1667 ft r(c) = 0.3594 ft



WELL TEST ANALYSIS

Data Set: S:\...\Panola_06C.aqt
Date: 04/14/15 Time: 10:47:33

PROJECT INFORMATION

Company: INTERA
Client: Panola
Test Well: 183006C
Test Date: 12/18/79

AQUIFER DATA

Saturated Thickness: 63. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
06C	0	0

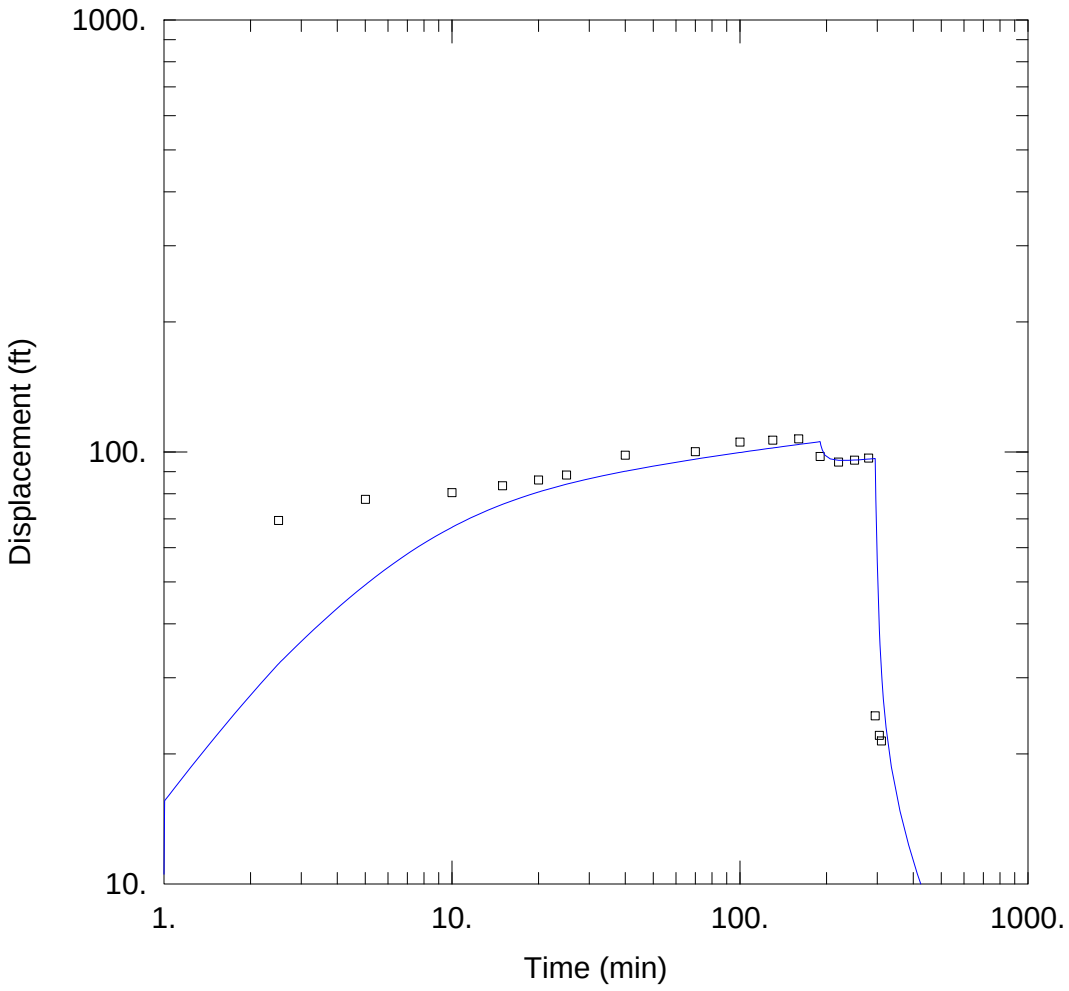
Observation Wells

Well Name	X (ft)	Y (ft)
▫ 06C	0	0

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper

T = 652. ft^2/day
S = 0.0003219
r(w) = 0.276 ft
r(c) = 0.4479 ft



WELL TEST ANALYSIS

Data Set: S:\...\Panola_06D.aqt
Date: 04/14/15 Time: 10:47:40

PROJECT INFORMATION

Company: INTERA
Client: Panola
Test Well: 183006D
Test Date: 10/31/88

AQUIFER DATA

Saturated Thickness: 60. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
06D	0	0

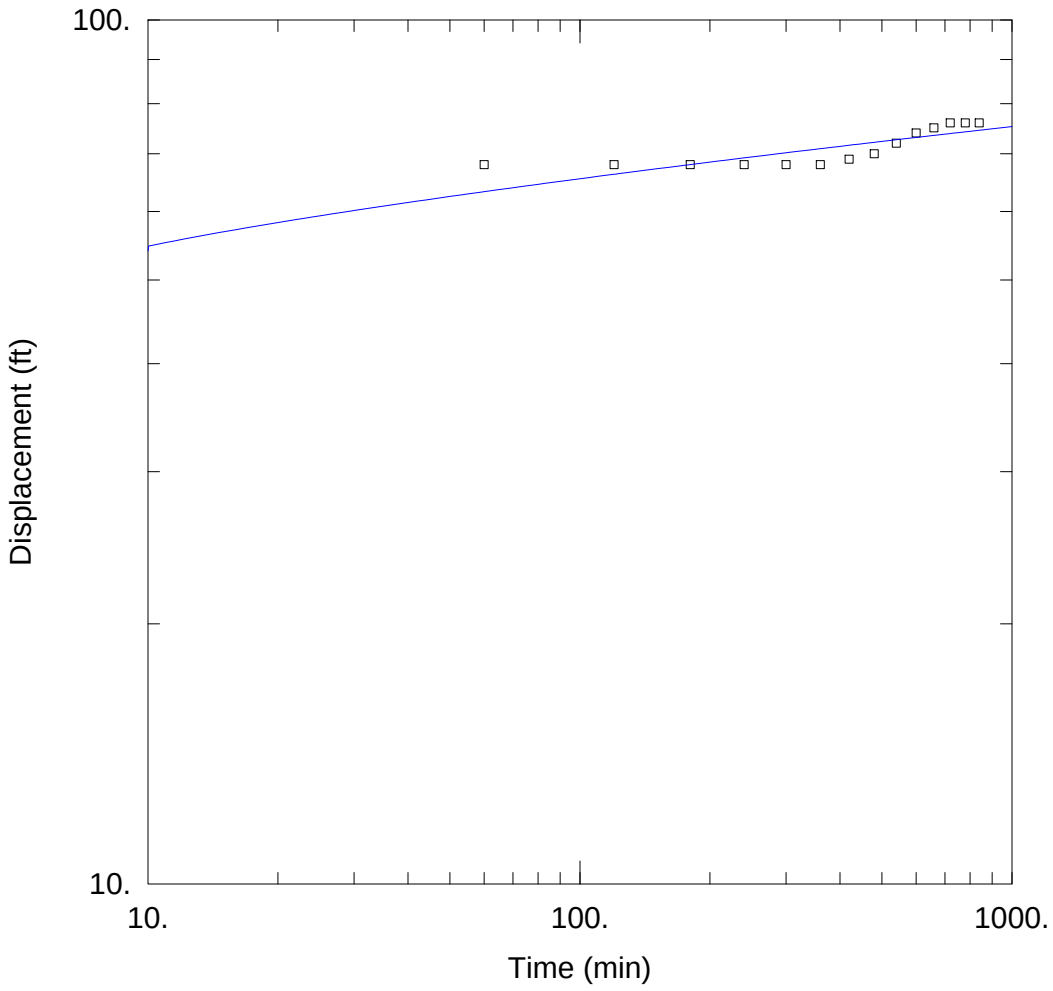
Observation Wells

Well Name	X (ft)	Y (ft)
▫ 06D	0	0

SOLUTION

Aquifer Model: Confined Solution Method: Papadopulos-Cooper

T = 82.53 ft^2/day S = 0.001552
r(w) = 0.25 ft r(c) = 0.4167 ft



WELL TEST ANALYSIS

Data Set: S:\...\Panola_07B.aqt
Date: 04/14/15 Time: 10:47:44

PROJECT INFORMATION

Company: INTERA
Client: Panola
Test Well: 183007B
Test Date: 02/10/1981

AQUIFER DATA

Saturated Thickness: 84. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
07B	0	0

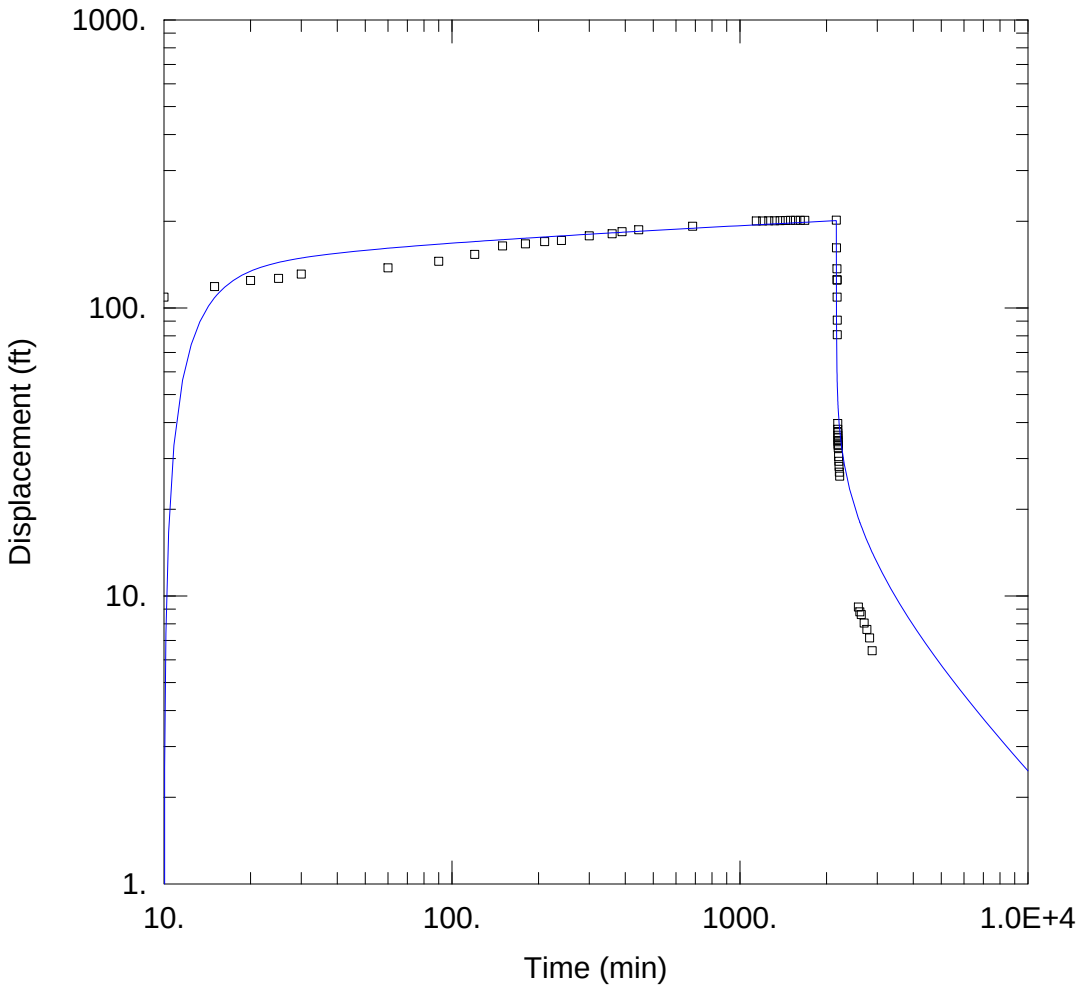
Observation Wells

Well Name	X (ft)	Y (ft)
▫ 07B	0	0

SOLUTION

Aquifer Model: Confined Solution Method: Papadopulos-Cooper

T = 365.3 ft^2/day S = 0.0002592
r(w) = 0.1875 ft r(c) = 0.3594 ft



WELL TEST ANALYSIS

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PROJECT INFORMATION

Company: INTERA
Client: Panola
Test Well: 183007C
Test Date: 8/22/1995

AQUIFER DATA

Saturated Thickness: 60. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
07C	0	0

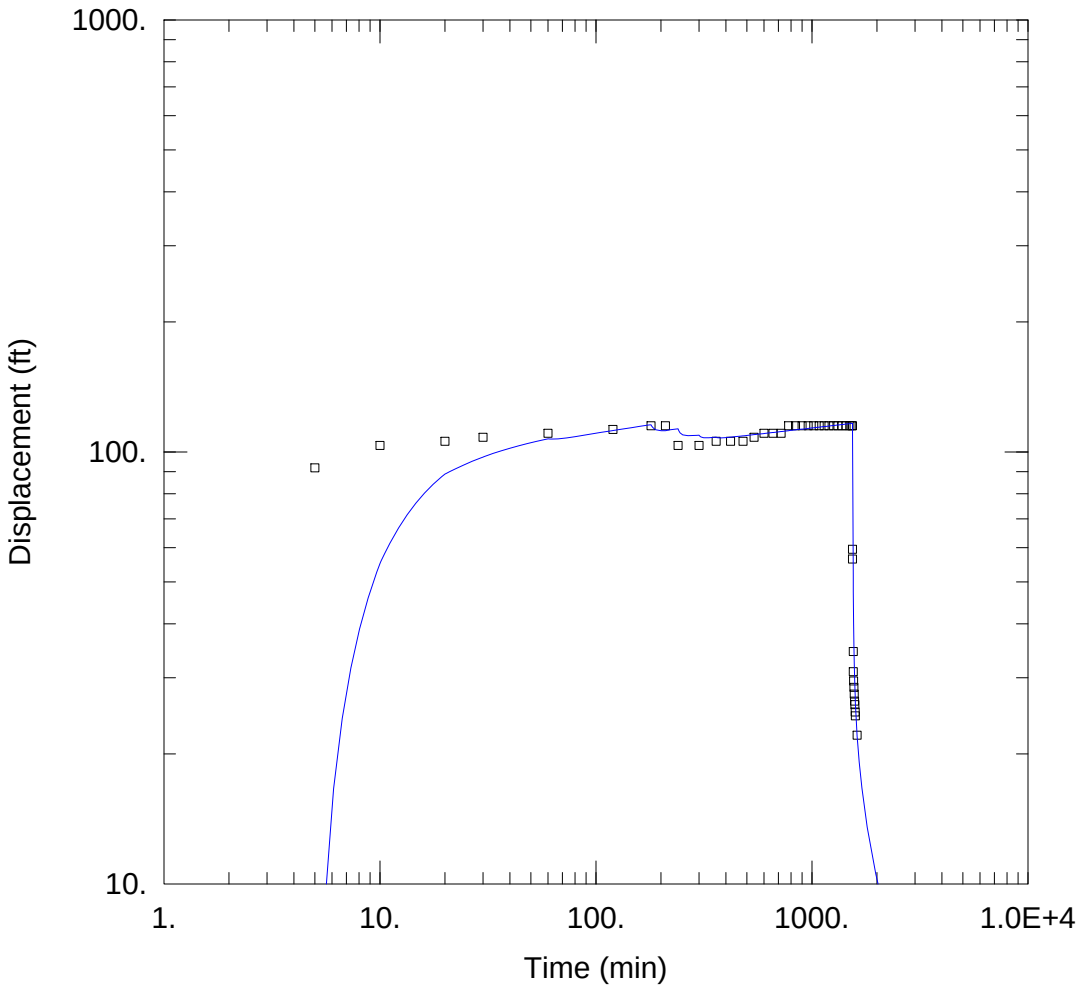
Observation Wells

Well Name	X (ft)	Y (ft)
▫ 07C	0	0

SOLUTION

Aquifer Model: Confined Solution Method: Papadopulos-Cooper

T = 141.5 ft^2/day S = 4.56E-5
r(w) = 0.1667 ft r(c) = 0.3333 ft



WELL TEST ANALYSIS

Data Set: S:\...\Panola_08C.aqt
Date: 04/14/15 Time: 10:48:57

PROJECT INFORMATION

Company: INTERA
Client: Panola
Test Well: 183008C
Test Date: Unknown

AQUIFER DATA

Saturated Thickness: 100. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
08C	0	0

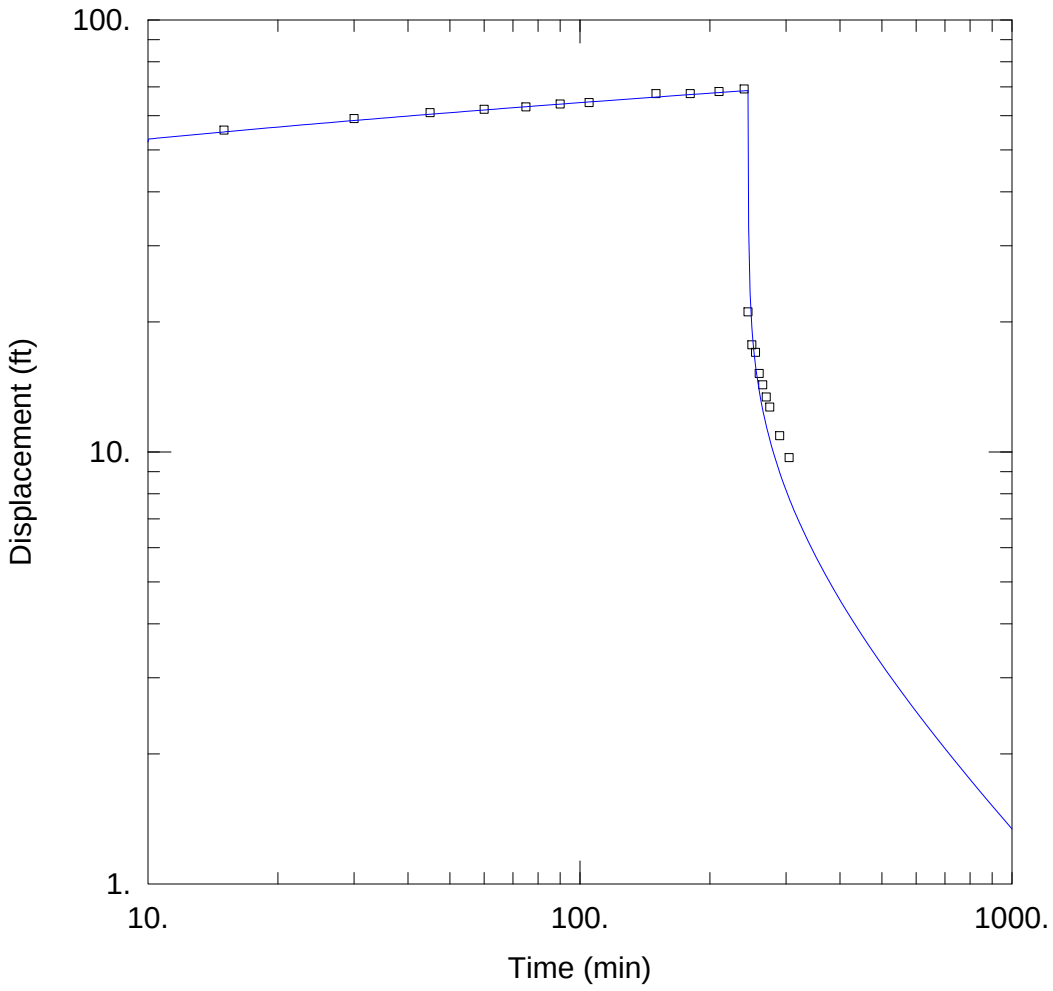
Observation Wells

Well Name	X (ft)	Y (ft)
▫ 08C	0	0

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper

T = 78.15 ft^2/day
S = 9.583E-5
r(w) = 0.25 ft
r(c) = 0.4167 ft



WELL TEST ANALYSIS

Data Set: S:\...\Panola_08D.aqt
Date: 04/14/15 Time: 10:48:59

PROJECT INFORMATION

Company: INTERA
Client: Panola
Test Well: 183008D
Test Date: 5/15/2013

AQUIFER DATA

Saturated Thickness: 120. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
08D	0	0

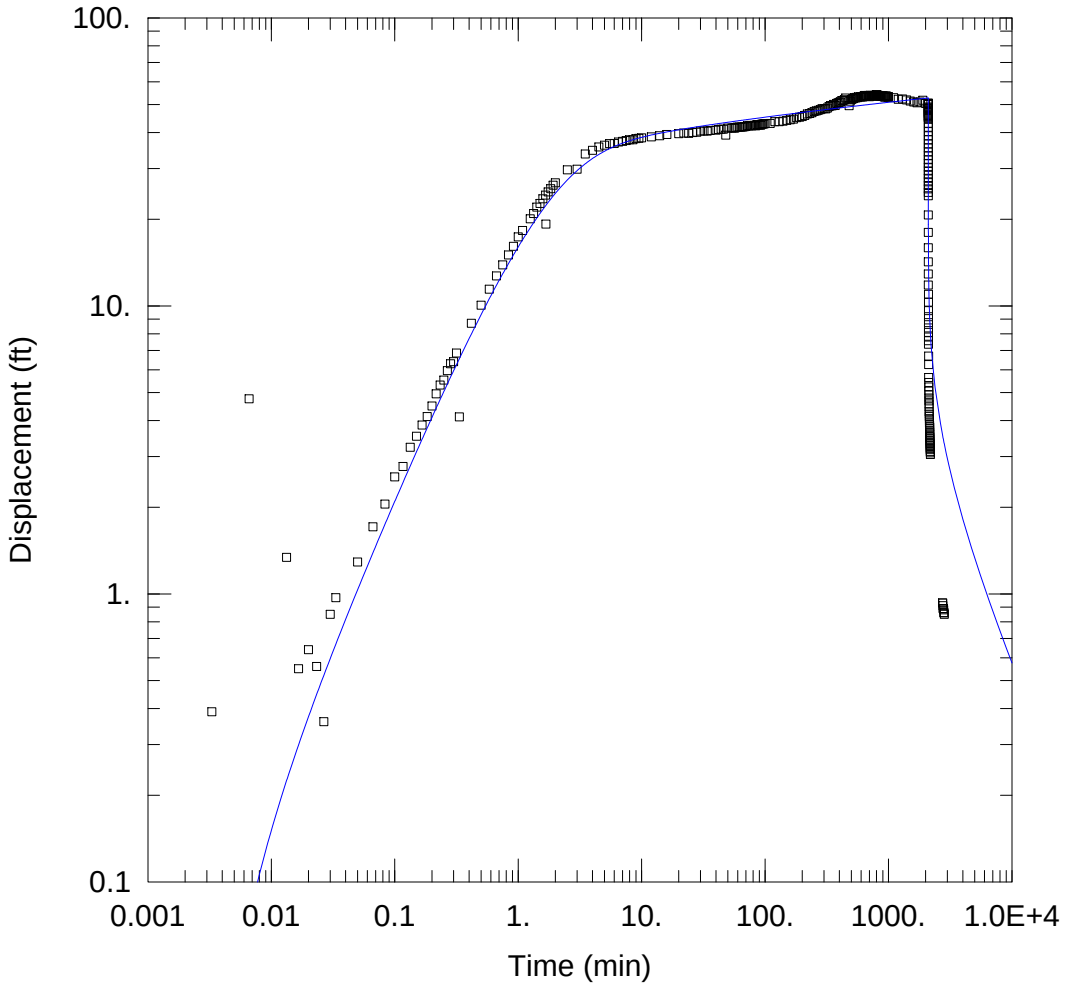
Observation Wells

Well Name	X (ft)	Y (ft)
▫ 08D	0	0

SOLUTION

Aquifer Model: Confined Solution Method: Papadopulos-Cooper

T = 128.6 ft^2/day S = 0.001276
r(w) = 0.1458 ft r(c) = 0.1875 ft



WELL TEST ANALYSIS

Data Set: S:\...\Panola_09B.aqt
Date: 04/14/15 Time: 10:49:01

PROJECT INFORMATION

Company: INTERA
Client: Panola
Test Well: 183009B
Test Date: 5/15/2013

AQUIFER DATA

Saturated Thickness: 60. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
09B	0	0

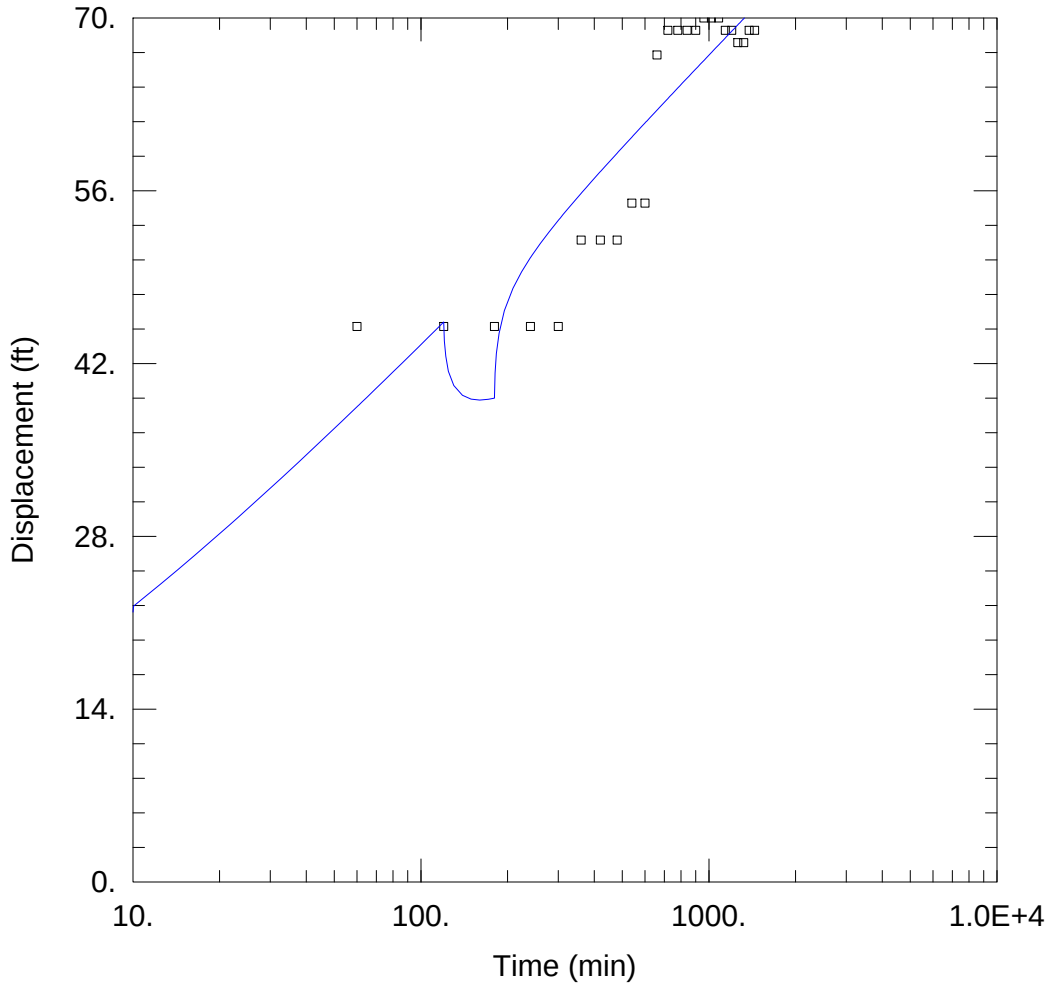
Observation Wells

Well Name	X (ft)	Y (ft)
▫ 09B	0	0

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper

T = 313.6 ft^2/day
S = 1.216E-5
r(w) = 0.1875 ft
r(c) = 0.3594 ft



WELL TEST ANALYSIS

Data Set: S:\...\Panola_10A.aqt
Date: 04/14/15 Time: 10:49:37

PROJECT INFORMATION

Company: INTERA
Client: Panola
Test Well: 183010A
Test Date: 7/23/1966

AQUIFER DATA

Saturated Thickness: 113. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
10A	0	0

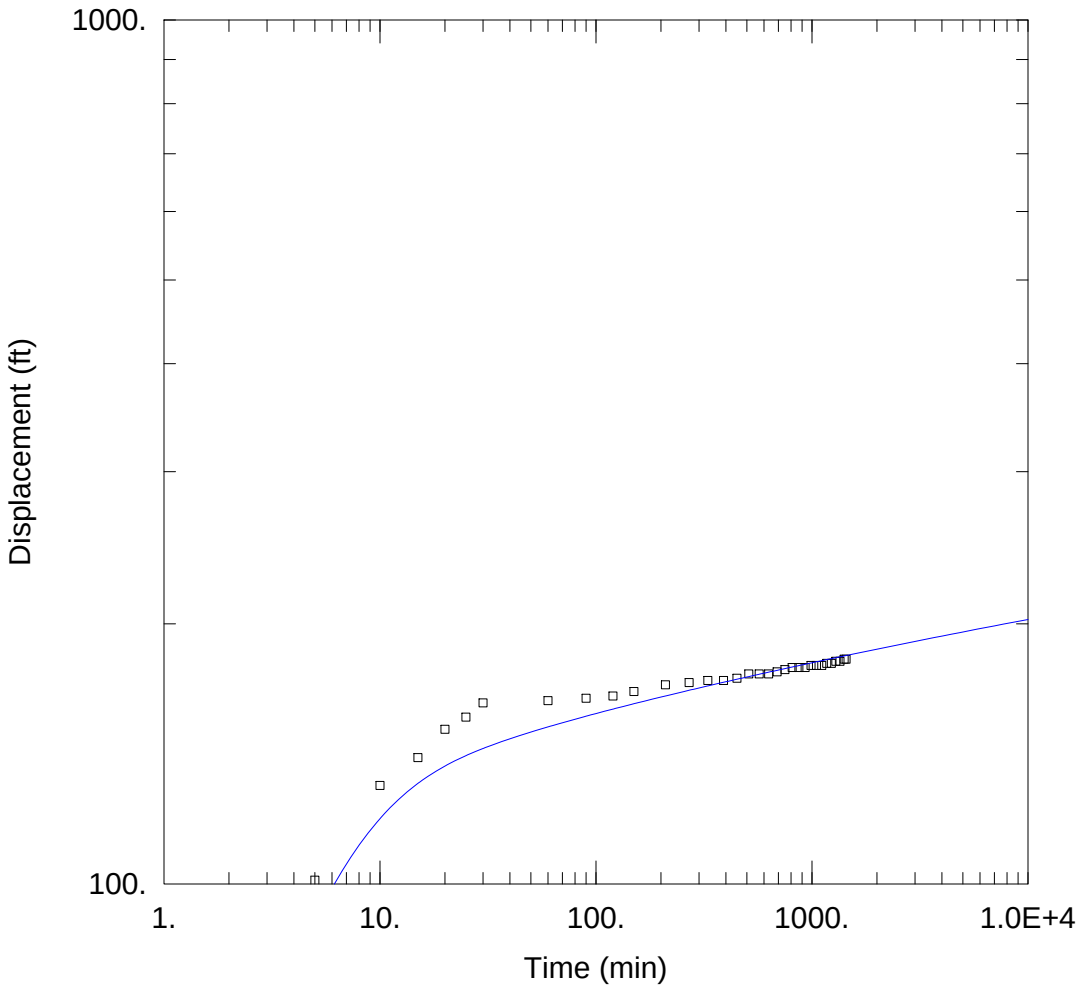
Observation Wells

Well Name	X (ft)	Y (ft)
▫ 10A	0	0

SOLUTION

Aquifer Model: Confined Solution Method: Papadopulos-Cooper

T = 87.42 ft^2/day S = 8.316
r(w) = 0.1667 ft r(c) = 0.3594 ft



WELL TEST ANALYSIS

Data Set: S:\...\Panola_10B.aqt
Date: 04/14/15 Time: 10:49:39

PROJECT INFORMATION

Company: INTERA
Client: Panola
Test Well: 183010B
Test Date: 1/3/1985

AQUIFER DATA

Saturated Thickness: 84. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
10B	0	0

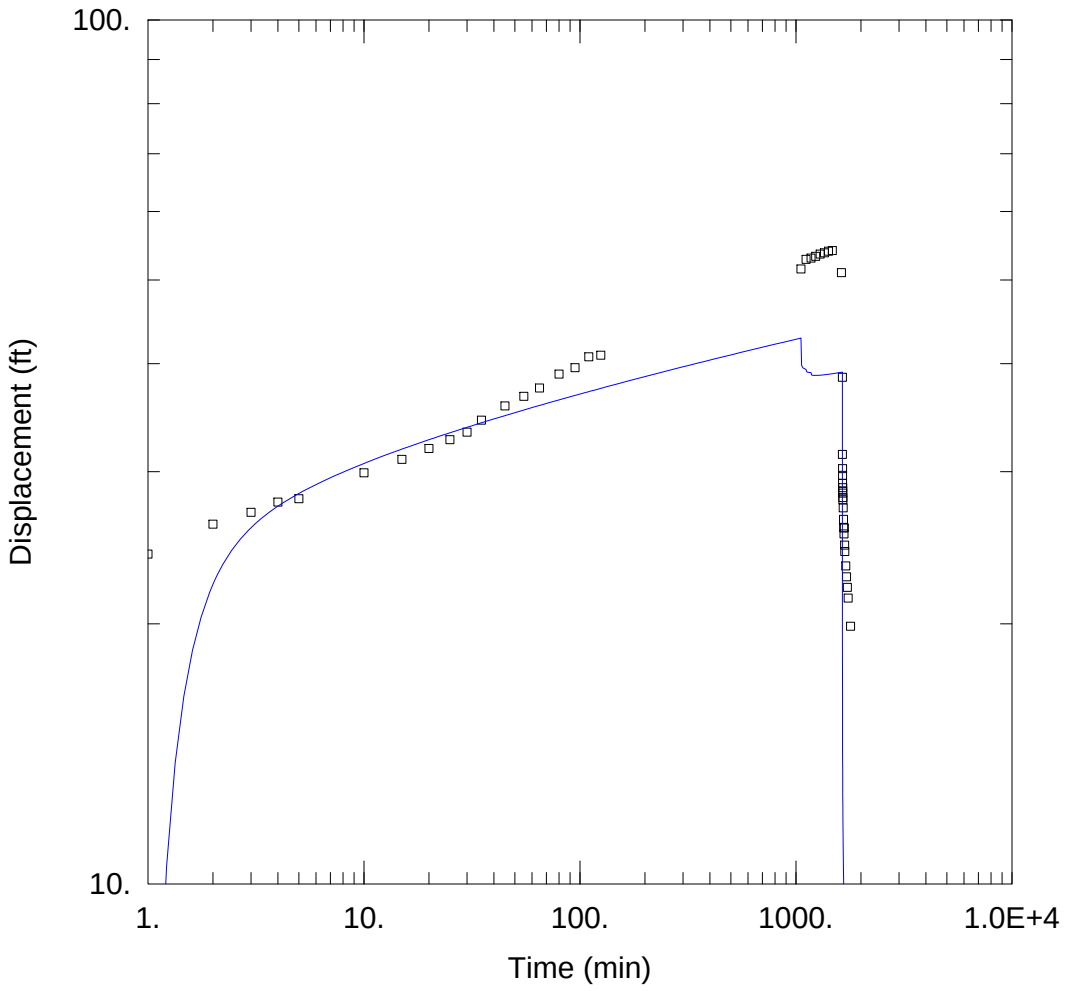
Observation Wells

Well Name	X (ft)	Y (ft)
▫ 10B	0	0

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper

T = 160.5 ft^2/day
S = 2.025E-5
r(w) = 0.276 ft
r(c) = 0.4479 ft



WELL TEST ANALYSIS

Data Set: S:\...\Panola_11E.aqt
Date: 04/14/15 Time: 10:49:41

PROJECT INFORMATION

Company: INTERA
Client: Panola
Test Well: 183011E
Test Date: 7/24/1995

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
11E	0	0

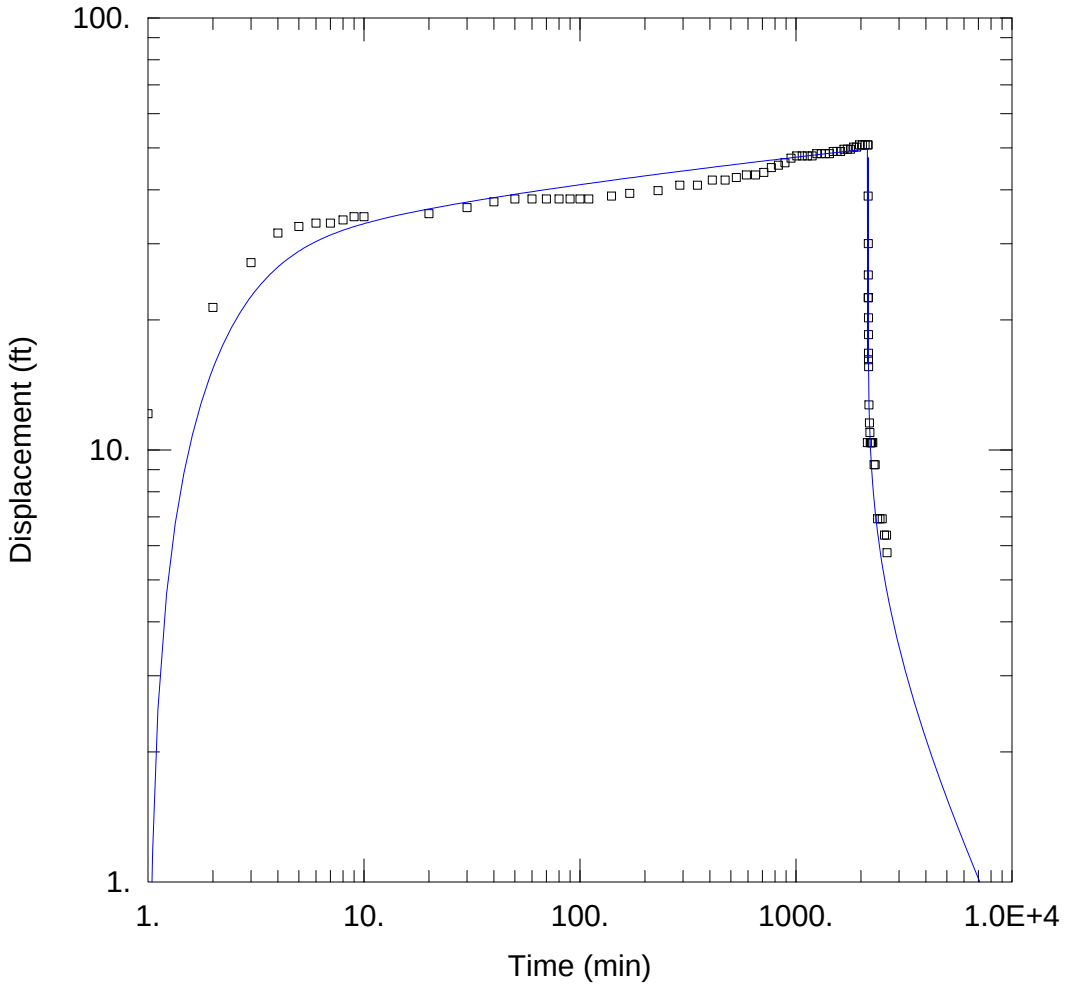
Observation Wells

Well Name	X (ft)	Y (ft)
▫ 11E	0	0

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper

T = 1471. ft^2/day
S = 0.00314
r(w) = 0.1667 ft
r(c) = 0.4167 ft



WELL TEST ANALYSIS

Data Set: S:\...\Panola_14A.aqt
Date: 04/14/15 Time: 10:49:44

PROJECT INFORMATION

Company: INTERA
Client: Panola
Test Well: 183014A
Test Date: 11/28/2001

AQUIFER DATA

Saturated Thickness: 24. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
14A	0	0

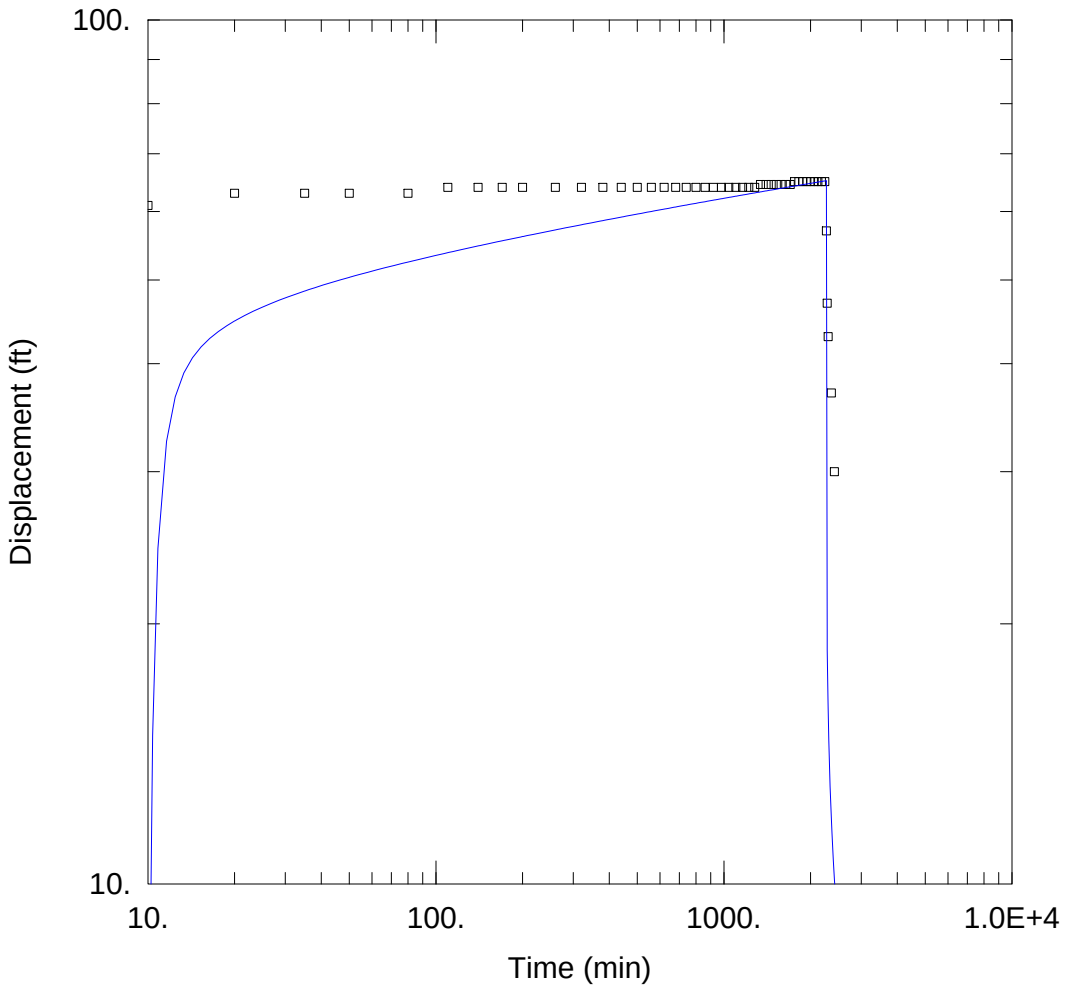
Observation Wells

Well Name	X (ft)	Y (ft)
▫ 14A	0	0

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper

T = 386.7 ft^2/day
S = 0.0002763
r(w) = 0.276 ft
r(c) = 0.4479 ft



WELL TEST ANALYSIS

Data Set: S:\...\Panola_14B.aqt
Date: 04/14/15 Time: 10:50:23

PROJECT INFORMATION

Company: INTERA
Client: Panola
Test Well: 183014B
Test Date: 6/15/2006

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
14B	0	0

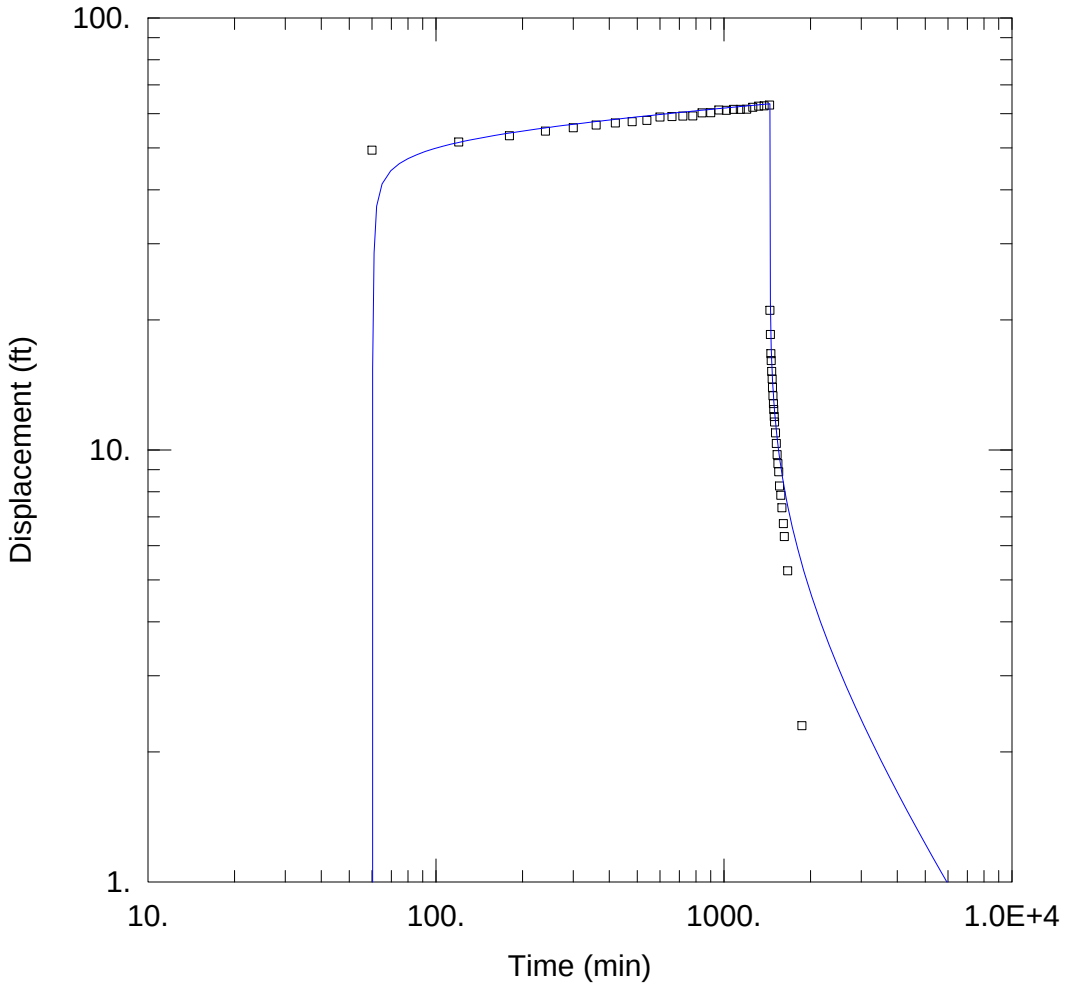
Observation Wells

Well Name	X (ft)	Y (ft)
▫ 14B	0	0

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper

T = 675.6 ft^2/day
S = 0.0004948
r(w) = 0.276 ft
r(c) = 0.4479 ft



WELL TEST ANALYSIS

Data Set: S:\...\Panola_21B.aqt
Date: 04/14/15 Time: 10:50:25

PROJECT INFORMATION

Company: INTERA
Client: Panola
Test Well: 183021B
Test Date: 5/15/1975

AQUIFER DATA

Saturated Thickness: 129. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
21B	0	0

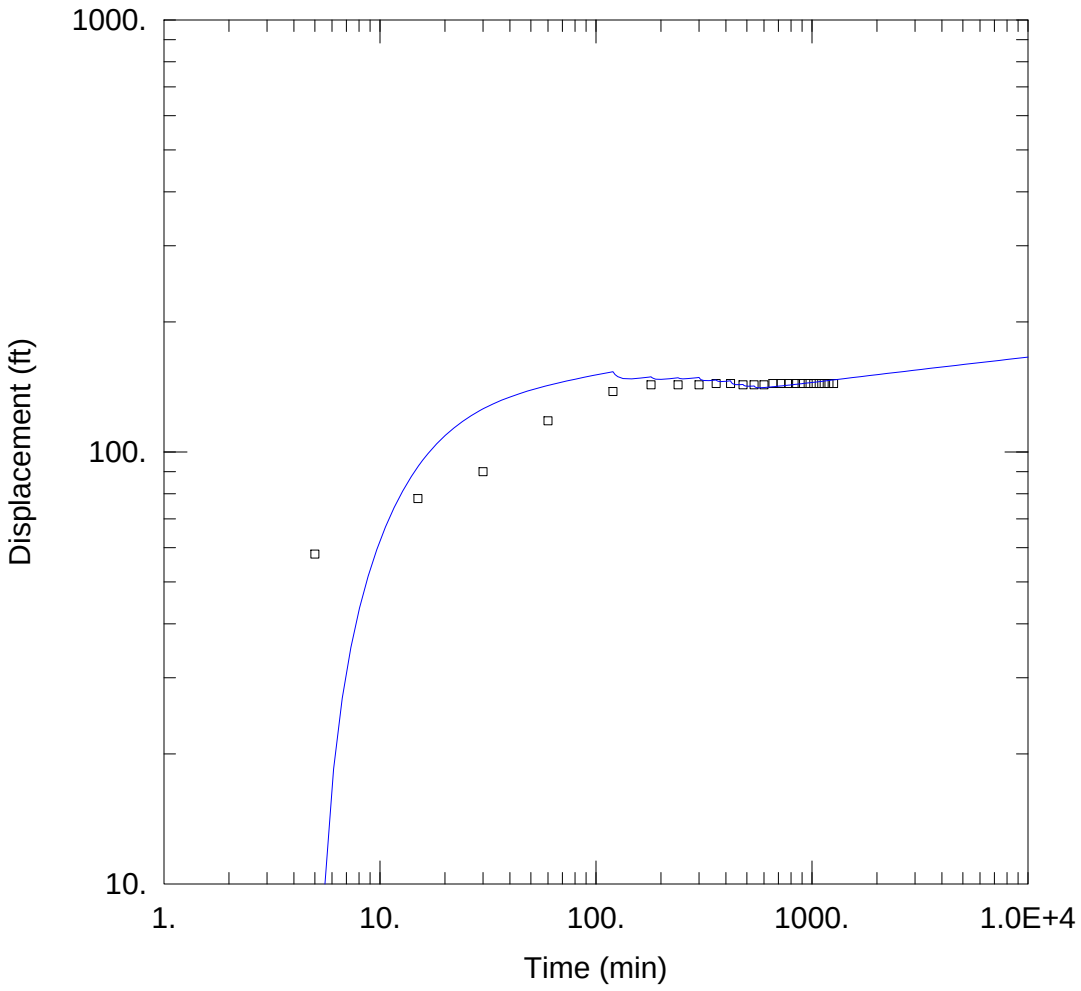
Observation Wells

Well Name	X (ft)	Y (ft)
▫ 21B	0	0

SOLUTION

Aquifer Model: Confined Solution Method: Papadopulos-Cooper

T = 1440. ft^2/day S = 0.001
r(w) = 0.3594 ft r(c) = 0.5833 ft



WELL TEST ANALYSIS

Data Set: S:\...\Panola_25A.aqt
Date: 04/14/15 Time: 10:50:27

PROJECT INFORMATION

Company: INTERA
Client: Panola
Test Well: 183025A
Test Date: 9/2/1988

AQUIFER DATA

Saturated Thickness: 146. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
G1830025A	0	0

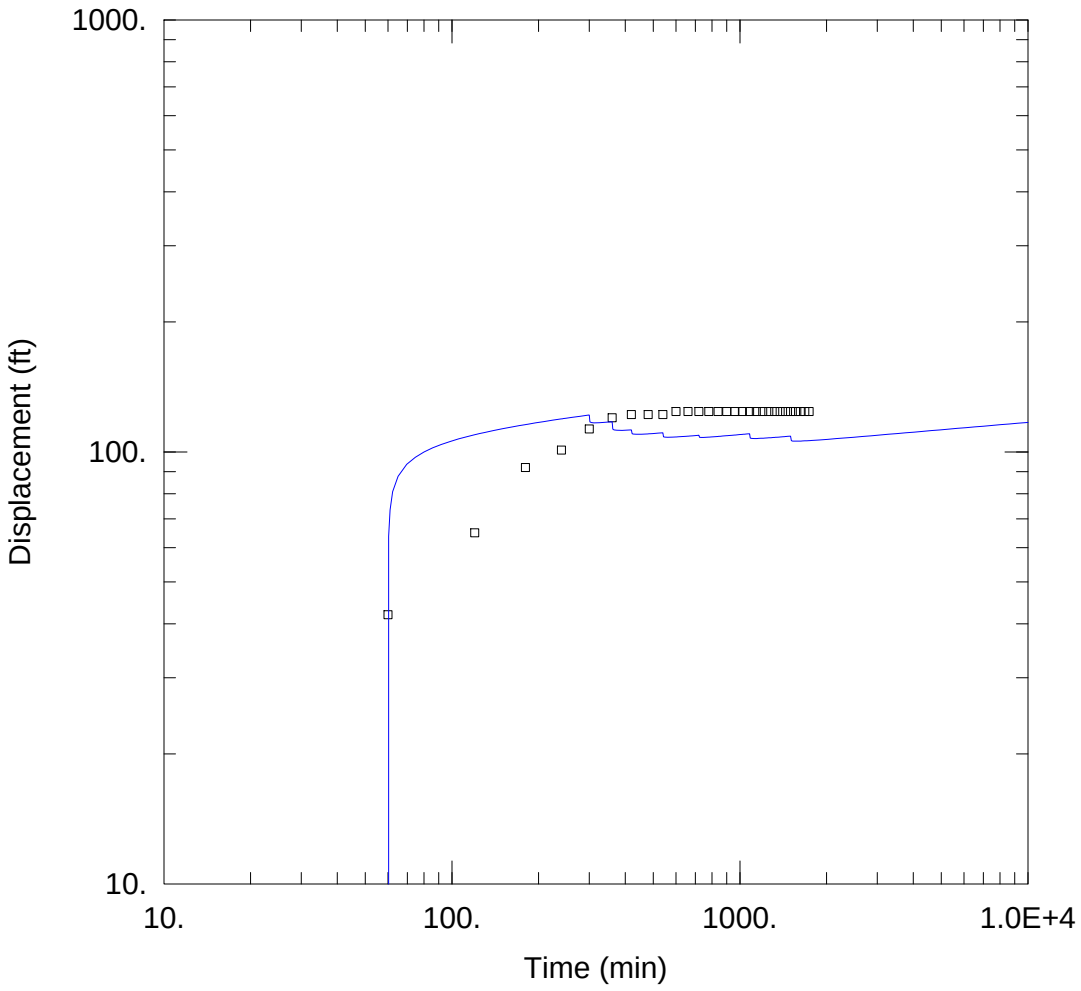
Observation Wells

Well Name	X (ft)	Y (ft)
▫ G1830025A	0	0

SOLUTION

Aquifer Model: Confined Solution Method: Papadopulos-Cooper

T = 98.81 ft^2/day S = 0.0003724
r(w) = 0.276 ft r(c) = 0.4948 ft



WELL TEST ANALYSIS

Data Set: S:\...\Panola_25B.aqt
Date: 04/14/15 Time: 10:50:29

PROJECT INFORMATION

Company: INTERA
Client: Panola
Test Well: 183025B
Test Date: 2/23/1989

AQUIFER DATA

Saturated Thickness: 107. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
25B	0	0

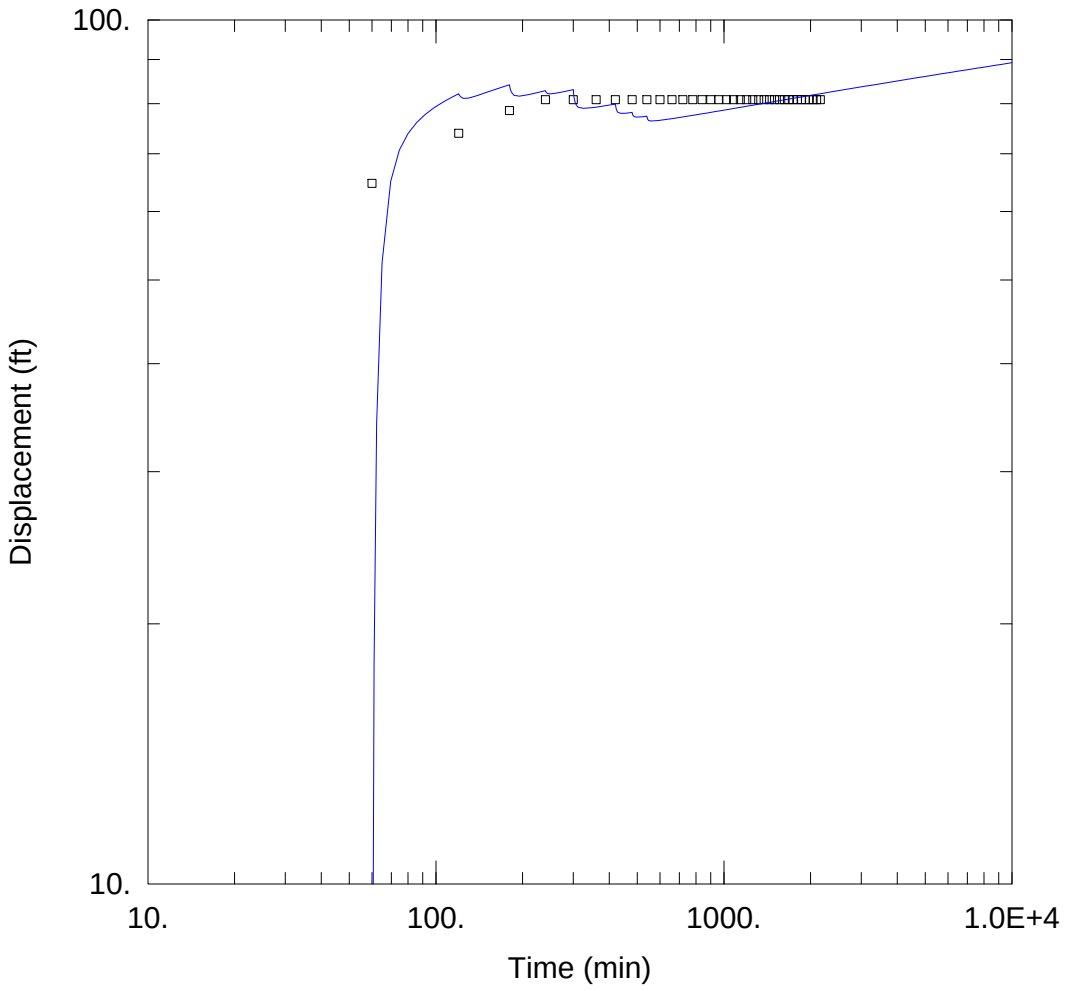
Observation Wells

Well Name	X (ft)	Y (ft)
▫ 25B	0	0

SOLUTION

Aquifer Model: Confined Solution Method: Papadopulos-Cooper

T = 122.3 ft^2/day S = 0.0005603
r(w) = 0.276 ft r(c) = 0.4479 ft



WELL TEST ANALYSIS

Data Set: S:\...\Panola_25C.aqt
Date: 04/14/15 Time: 10:51:05

PROJECT INFORMATION

Company: INTERA
Client: Panola
Test Well: 183025C
Test Date: 9/18/1991

AQUIFER DATA

Saturated Thickness: 105. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
25C	0	0

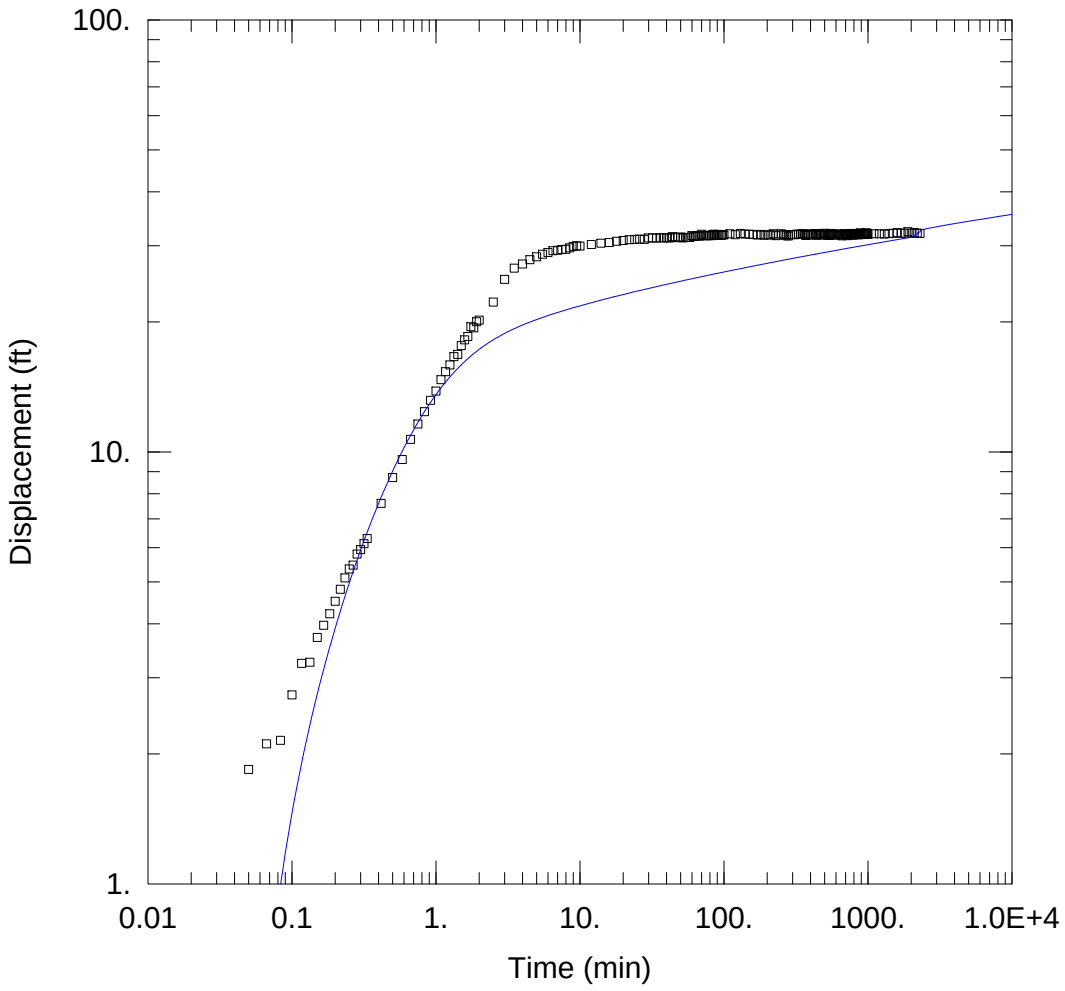
Observation Wells

Well Name	X (ft)	Y (ft)
▫ 25C	0	0

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper

T = 175.7 ft^2/day
S = 0.0001478
r(w) = 0.276 ft
r(c) = 0.4479 ft



WELL TEST ANALYSIS

Data Set: S:\...\Panola_25D.aqt
Date: 04/14/15 Time: 10:51:08

PROJECT INFORMATION

Company: INTERA
Client: Panola
Test Well: 183025D
Test Date: 12/5/1998

AQUIFER DATA

Saturated Thickness: 31. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
25D	0	0

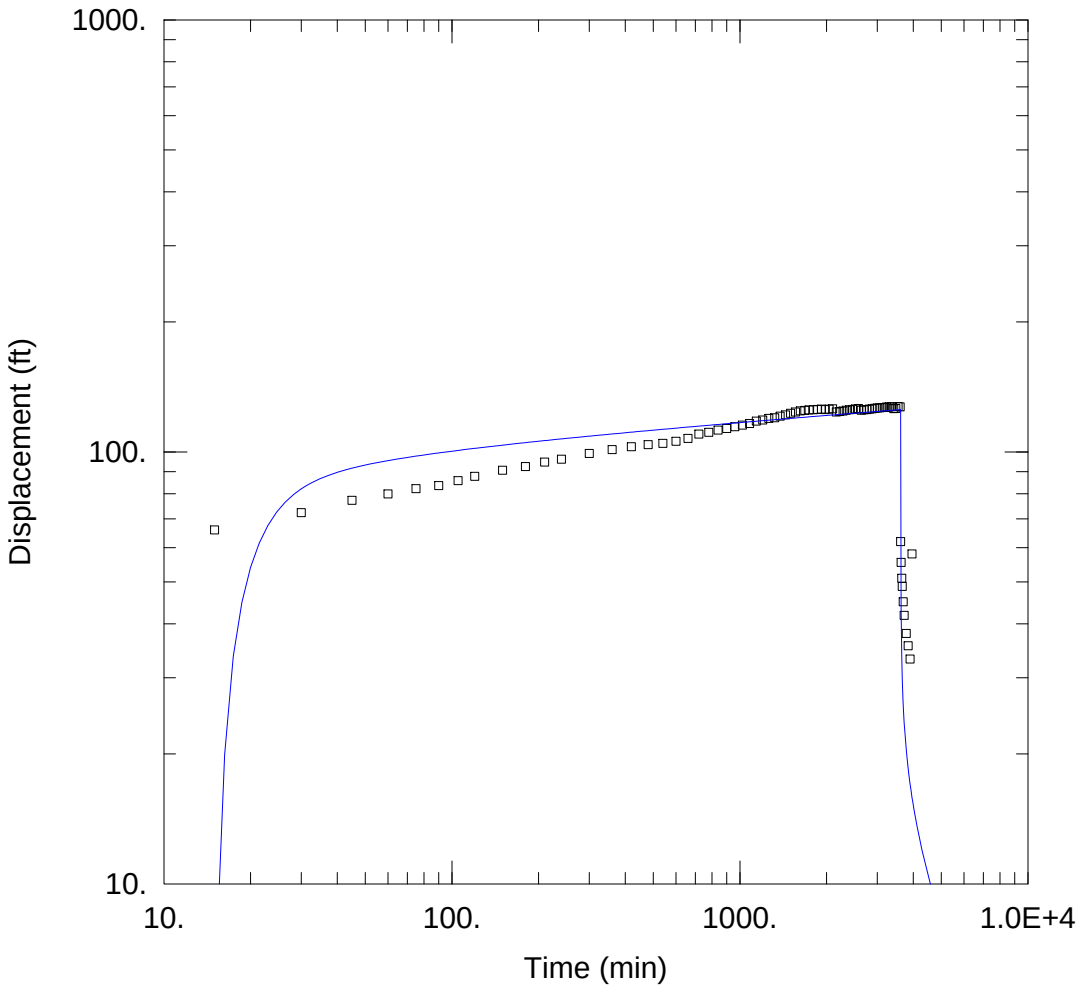
Observation Wells

Well Name	X (ft)	Y (ft)
▫ 25D	0	0

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper

T = 712.5 ft^2/day
S = 0.0006529
r(w) = 0.25 ft
r(c) = 0.4167 ft



WELL TEST ANALYSIS

Data Set: S:\...\Panola_25E.aqt
Date: 04/14/15 Time: 10:51:11

PROJECT INFORMATION

Company: INTERA
Client: Panola
Test Well: 183025E
Test Date: 11/29/1998

AQUIFER DATA

Saturated Thickness: 100. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
25E	0	0

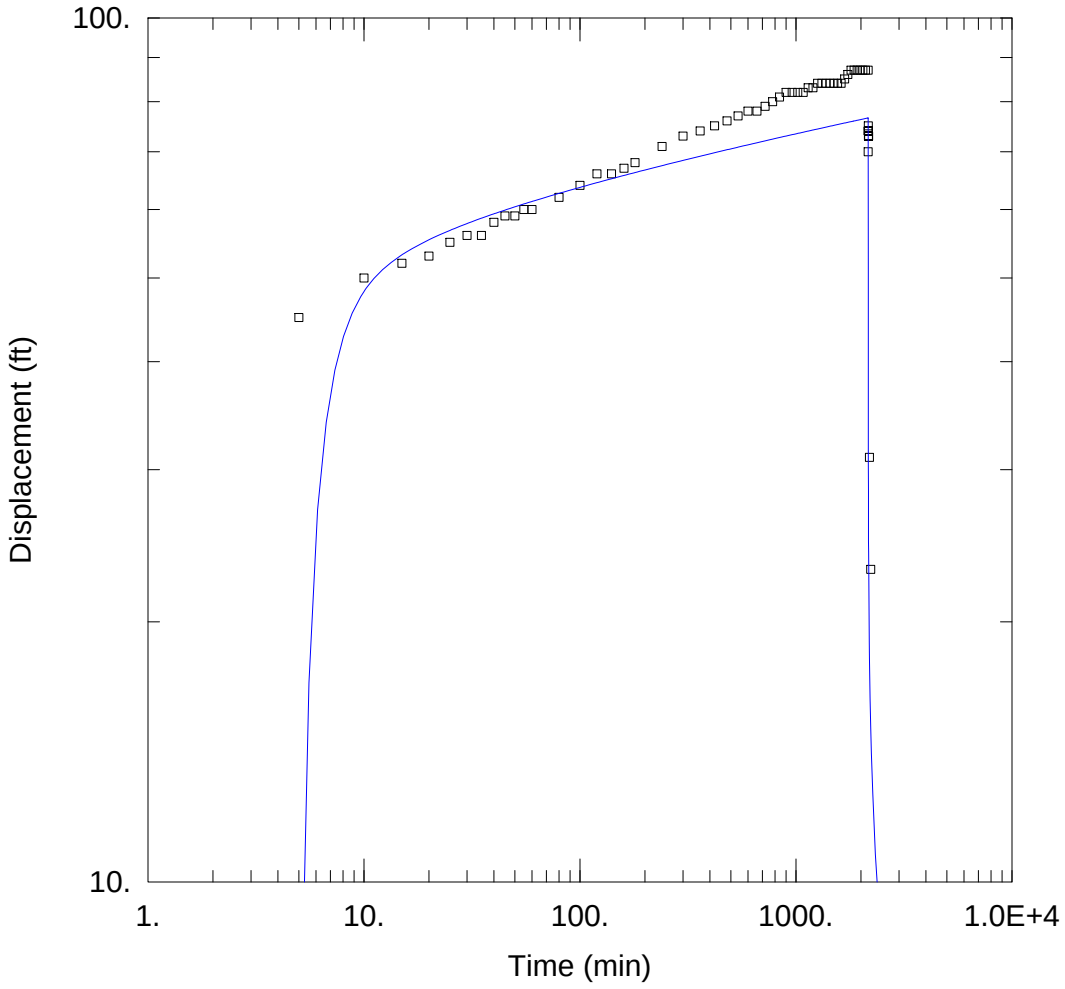
Observation Wells

Well Name	X (ft)	Y (ft)
▫ 25E	0	0

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper

T = 100.2 ft^2/day
S = 5.332E-5
r(w) = 0.1875 ft
r(c) = 0.3594 ft



WELL TEST ANALYSIS

Data Set: S:\...\Panola_27A.aqt
Date: 04/14/15 Time: 10:51:13

PROJECT INFORMATION

Company: INTERA
Client: Panola
Test Well: 183027A
Test Date: 11/28/2000

AQUIFER DATA

Saturated Thickness: 49. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
27A	0	0

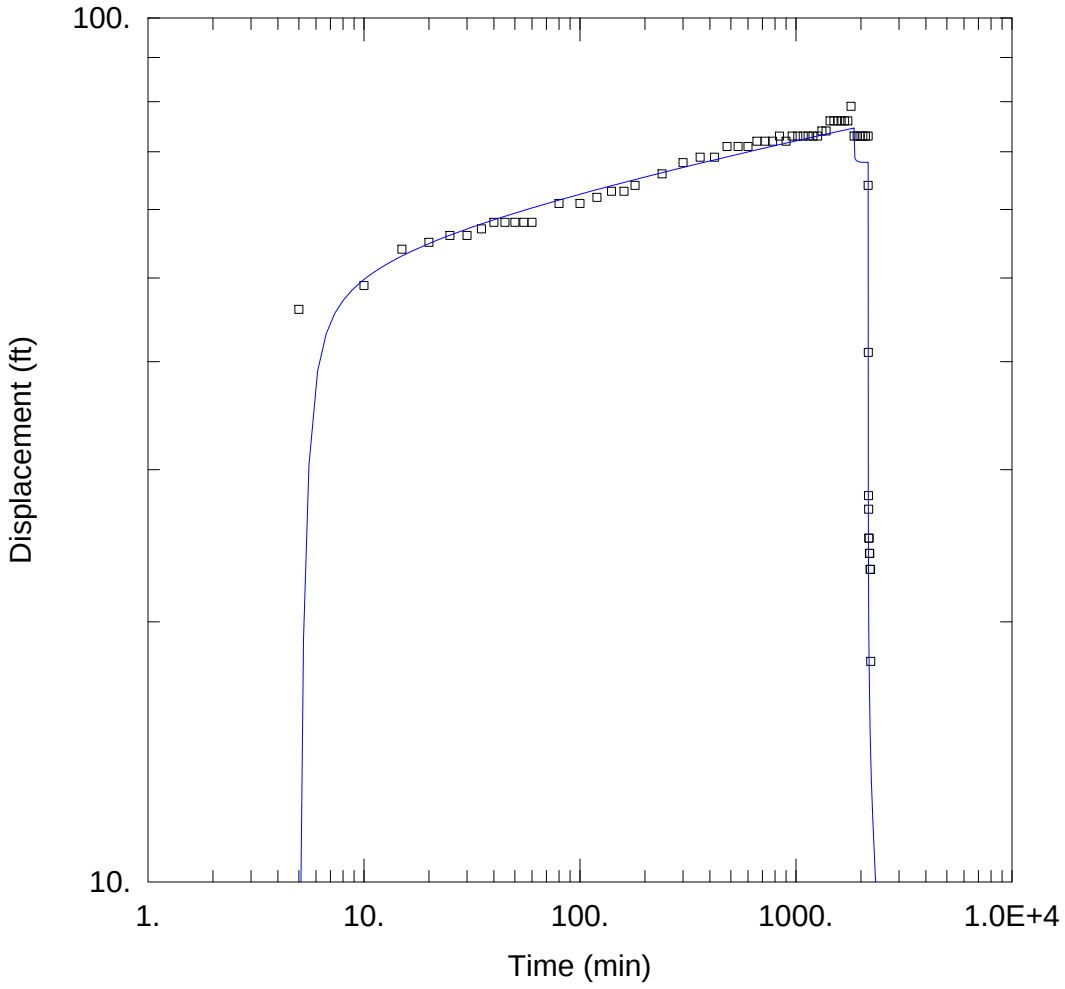
Observation Wells

Well Name	X (ft)	Y (ft)
▫ 27A	0	0

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper

T = 809.8 ft^2/day
S = 0.0007688
r(w) = 0.1667 ft
r(c) = 0.5833 ft



WELL TEST ANALYSIS

Data Set: S:\...\Panola_27B.aqt
Date: 04/14/15 Time: 10:51:55

PROJECT INFORMATION

Company: INTERA
Client: Panola
Test Well: G1830027B
Test Date: 11/20/2000

AQUIFER DATA

Saturated Thickness: 60. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
27B	0	0

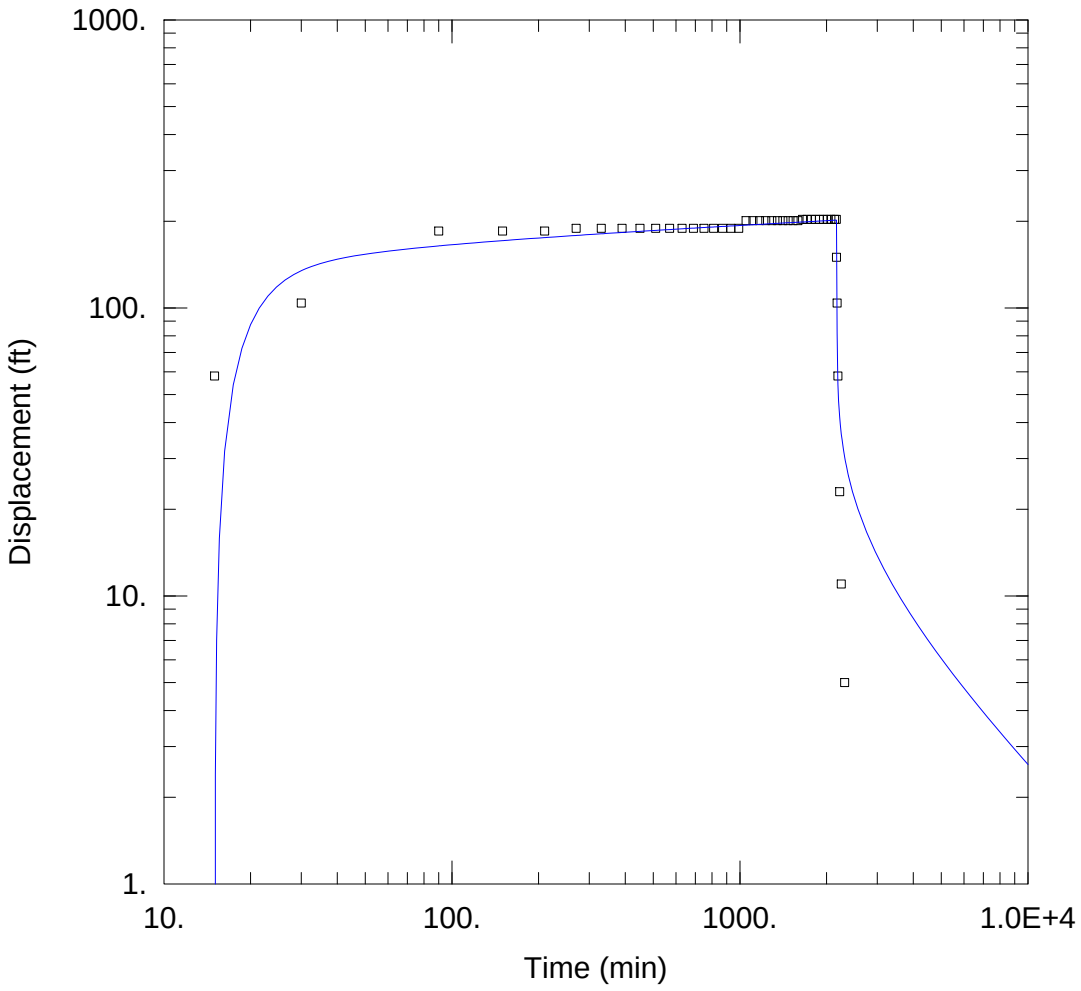
Observation Wells

Well Name	X (ft)	Y (ft)
▫ 27B	0	0

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper

T = 821.4 ft^2/day
S = 0.0008492
r(w) = 0.1667 ft
r(c) = 0.3333 ft



WELL TEST ANALYSIS

Data Set: S:\...\Panola_30C.aqt
Date: 04/14/15 Time: 10:51:57

PROJECT INFORMATION

Company: INTERA
Client: Panola
Test Well: G1830030C
Test Date: 10/5/2000

AQUIFER DATA

Saturated Thickness: 60. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
30C	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
▫ 30C	0	0

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper

T = 150.3 ft^2/day
S = 0.0001173
r(w) = 0.1667 ft
r(c) = 0.4583 ft

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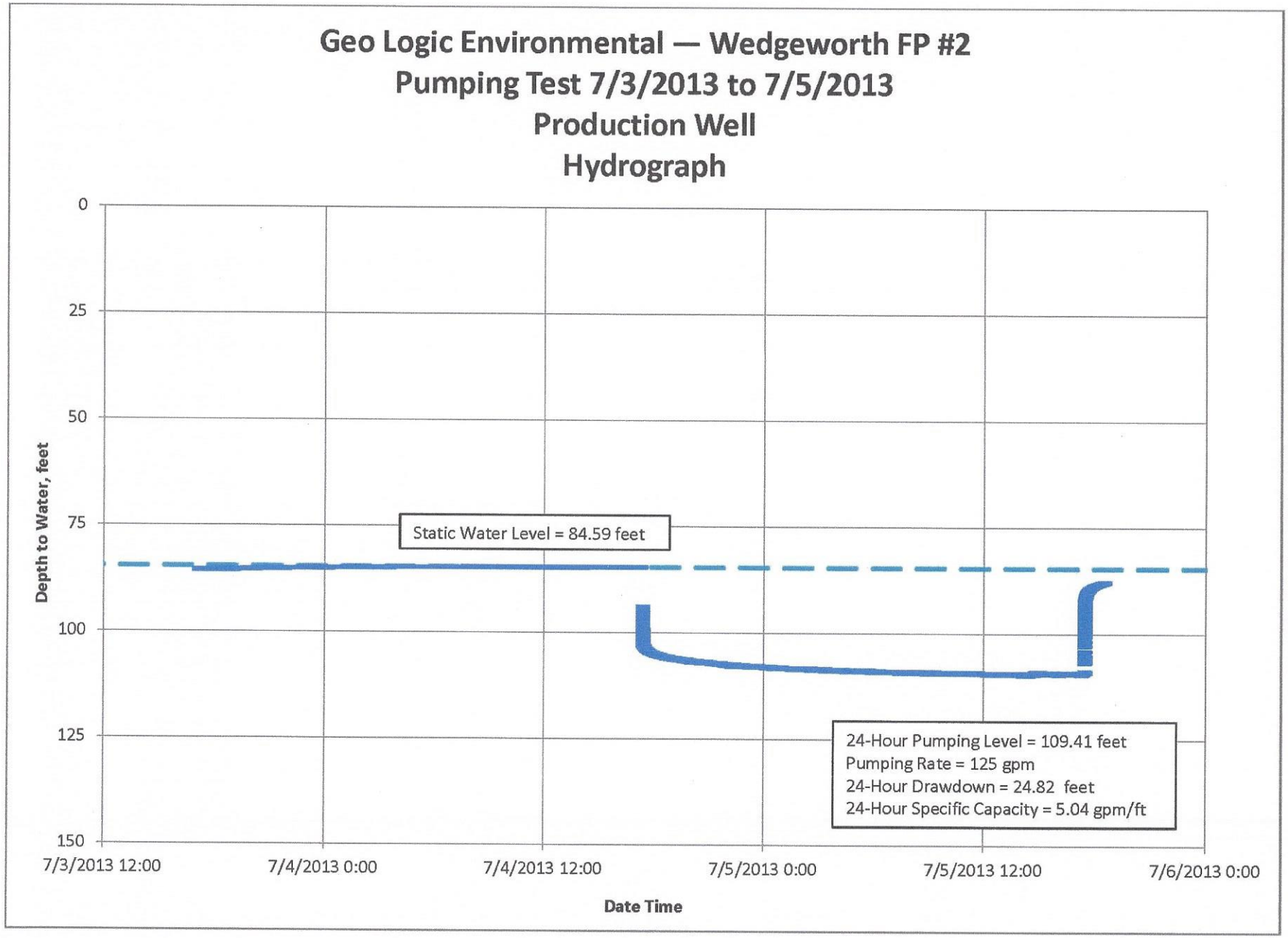
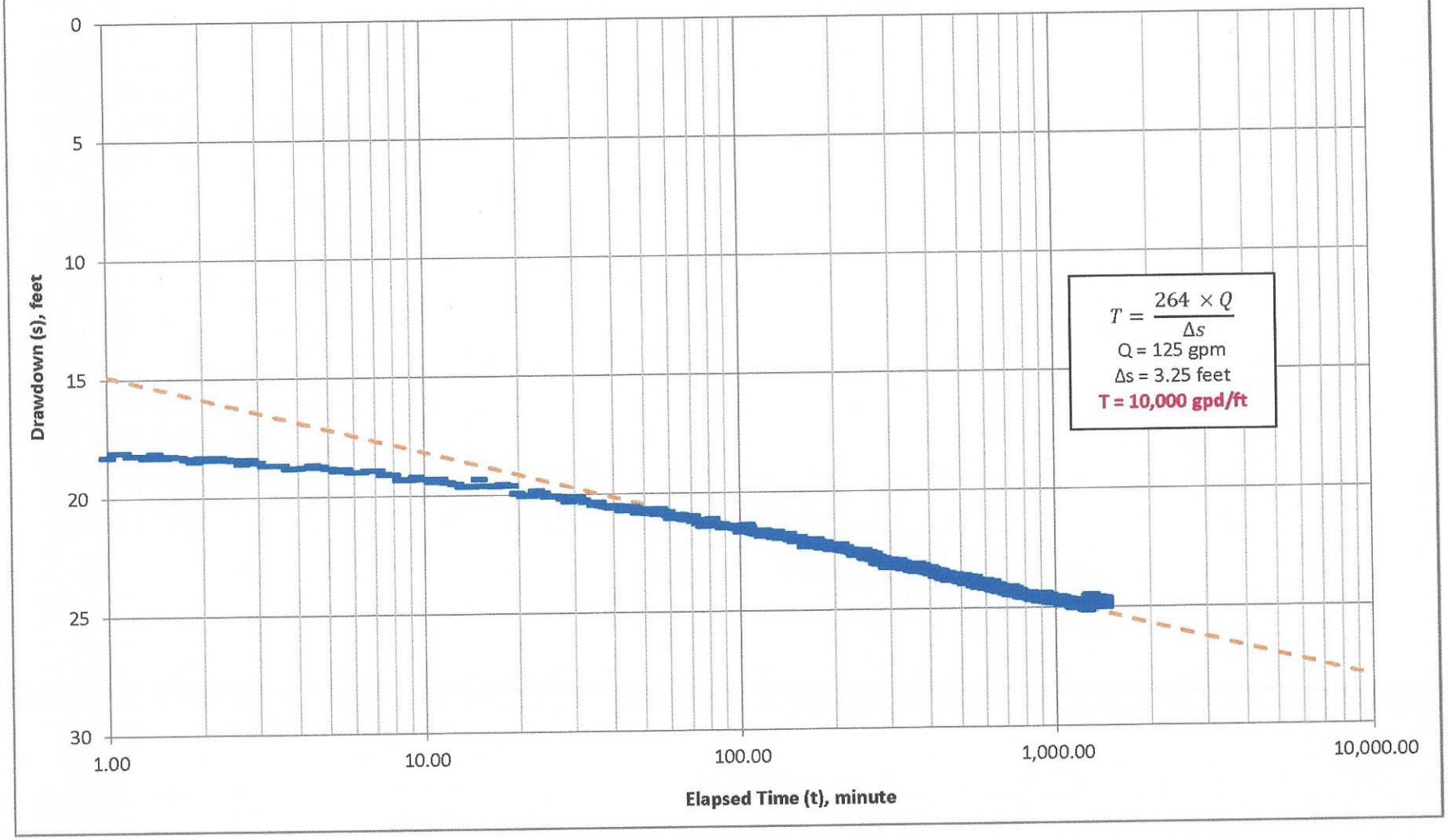
APPENDIX B

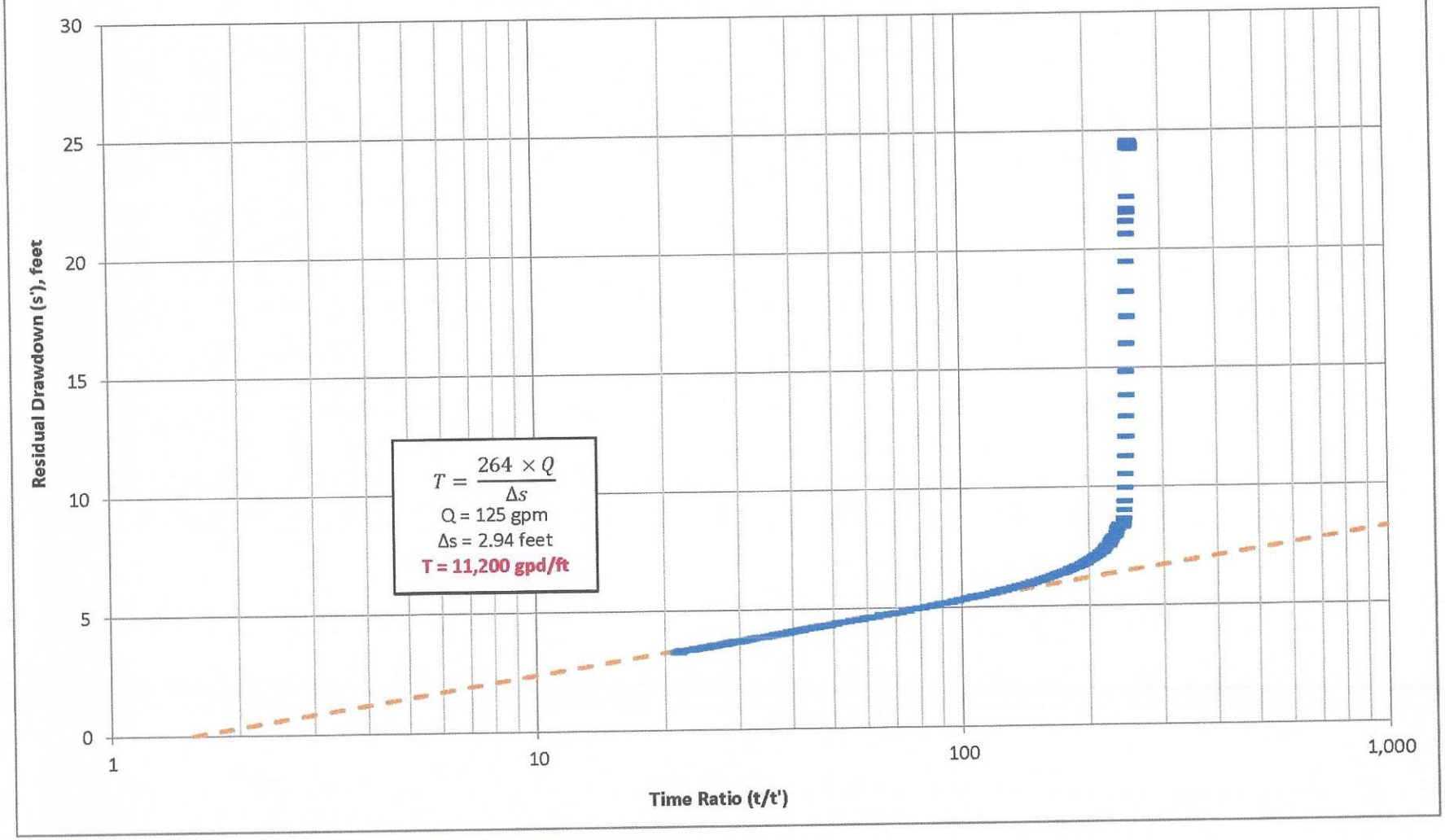
Aquifer Tests Provided to INTERA by the Panola County Groundwater Conservation District


Geo Logic Environmental — Wedgeworth FP #2
Pumping Test 7/3/2013 to 7/5/2013
Production Well
Hydrograph
Depth to Water, feet
0
25
50
75
100
125
150
Static Water Level = 84.59 feet
24-Hour Pumping Level = 109.41 feet
Pumping Rate = 125 gpm
24-Hour Drawdown = 24.82 feet
24-Hour Specific Capacity = 5.04 gpm/ft
7/3/2013 12:00
7/4/2013 0:00
7/4/2013 12:00
7/5/2013 0:00
7/5/2013 12:00
7/6/2013 0:00
Date Time

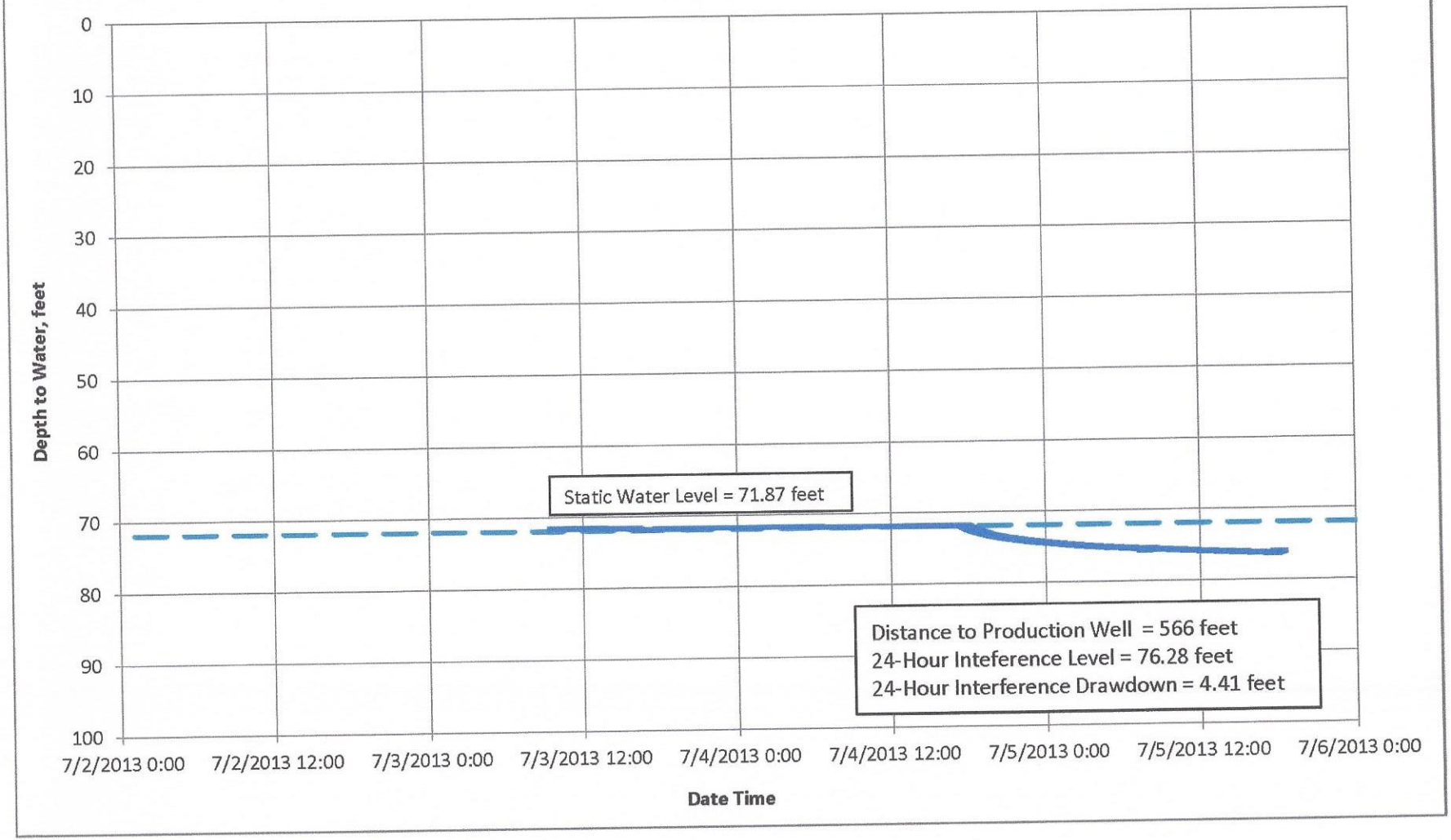
Geo Logic Environmental — Wedgeworth FP #2
Pumping Test 7/3/2013 to 7/5/2013
Production Well
Cooper-Jacob Chart - Drawdown



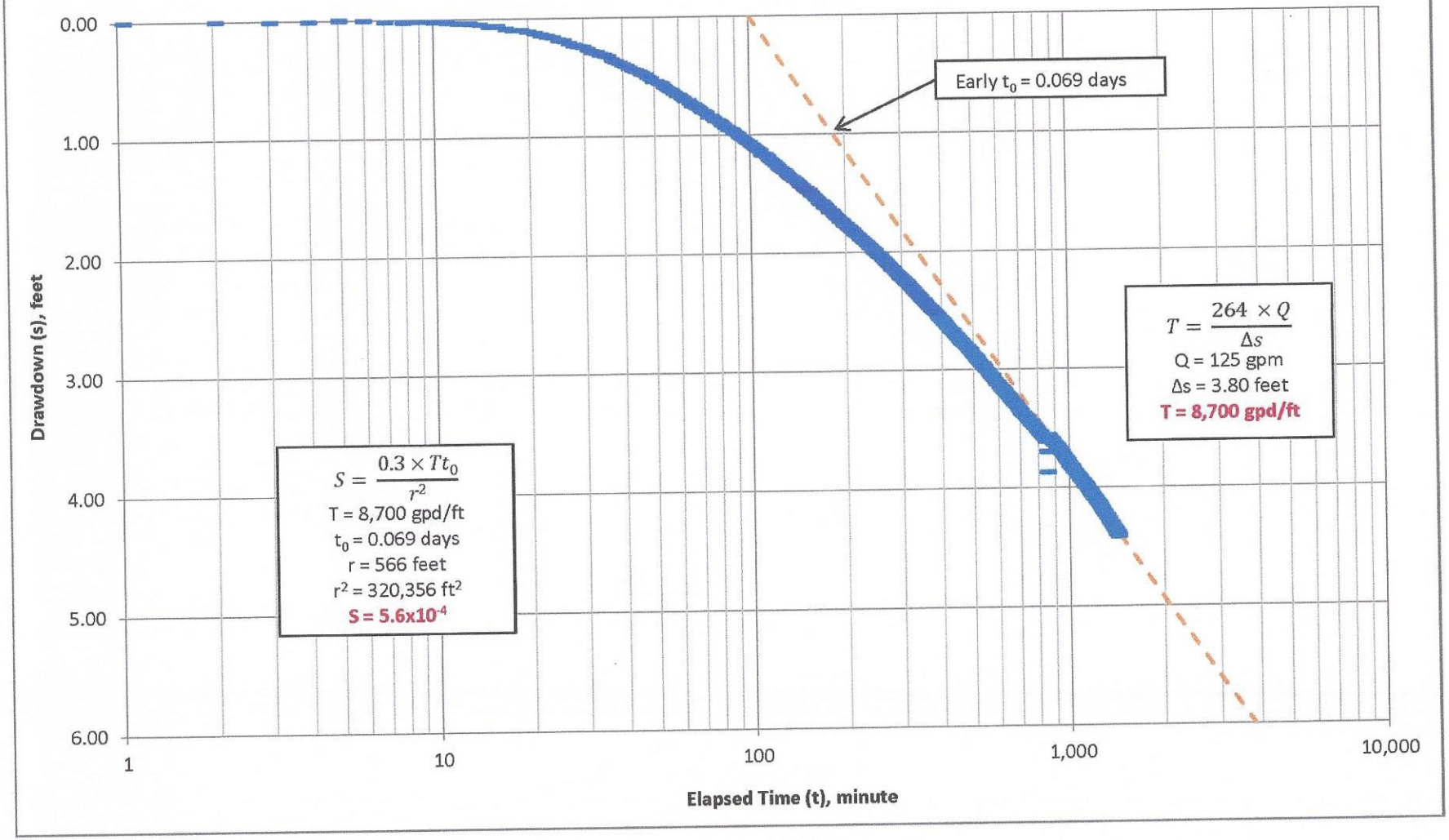
Geo Logic Environmental — Wedgeworth FP #2
Pumping Test 7/3/2013 to 7/5/2013
Production Well
Cooper-Jacob Chart - Recovery



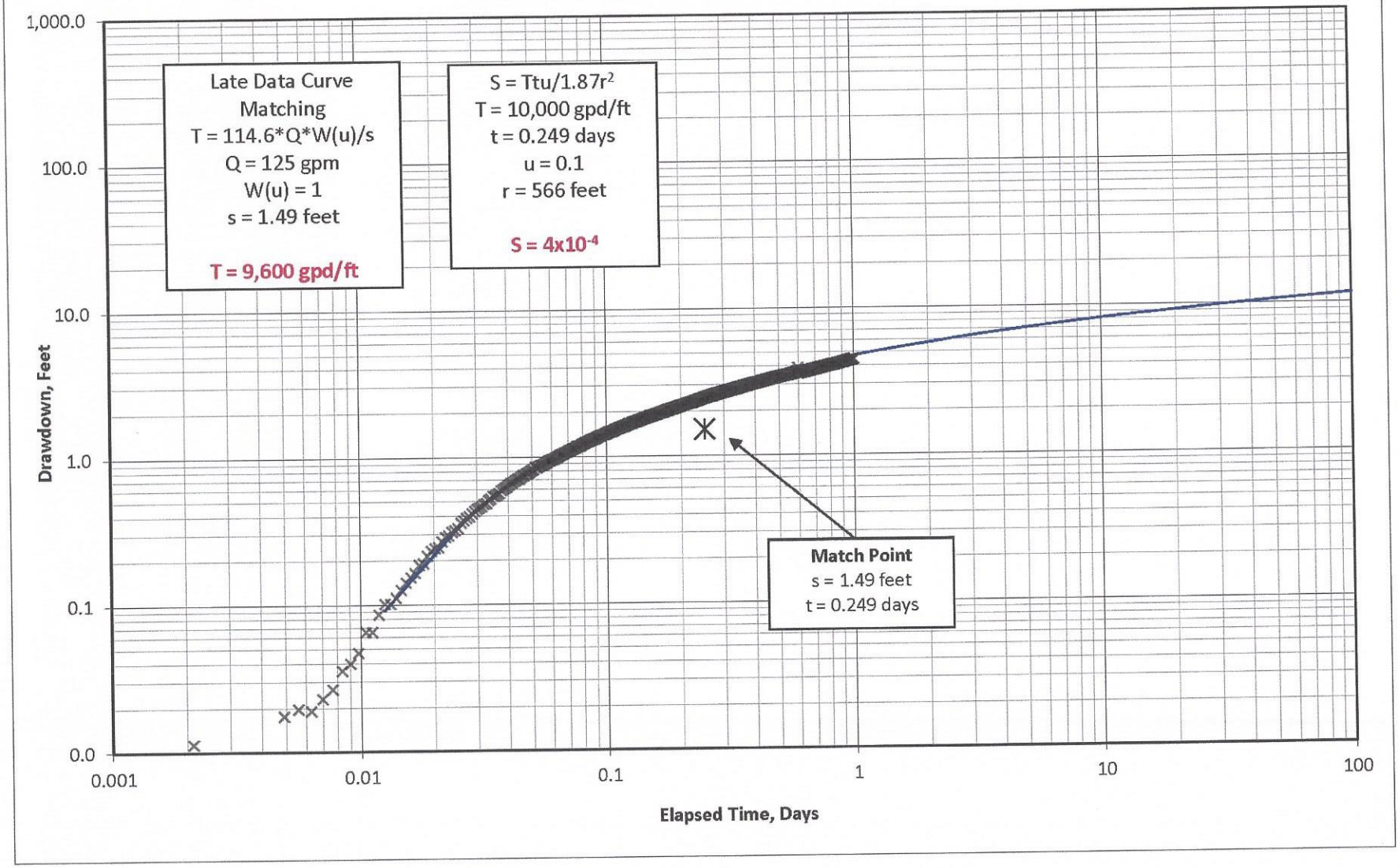
Geo Logic Environmental — CGU 19-04
Pumping Test 7/3/2013 to 7/5/2013
Observation Well
Hydrograph



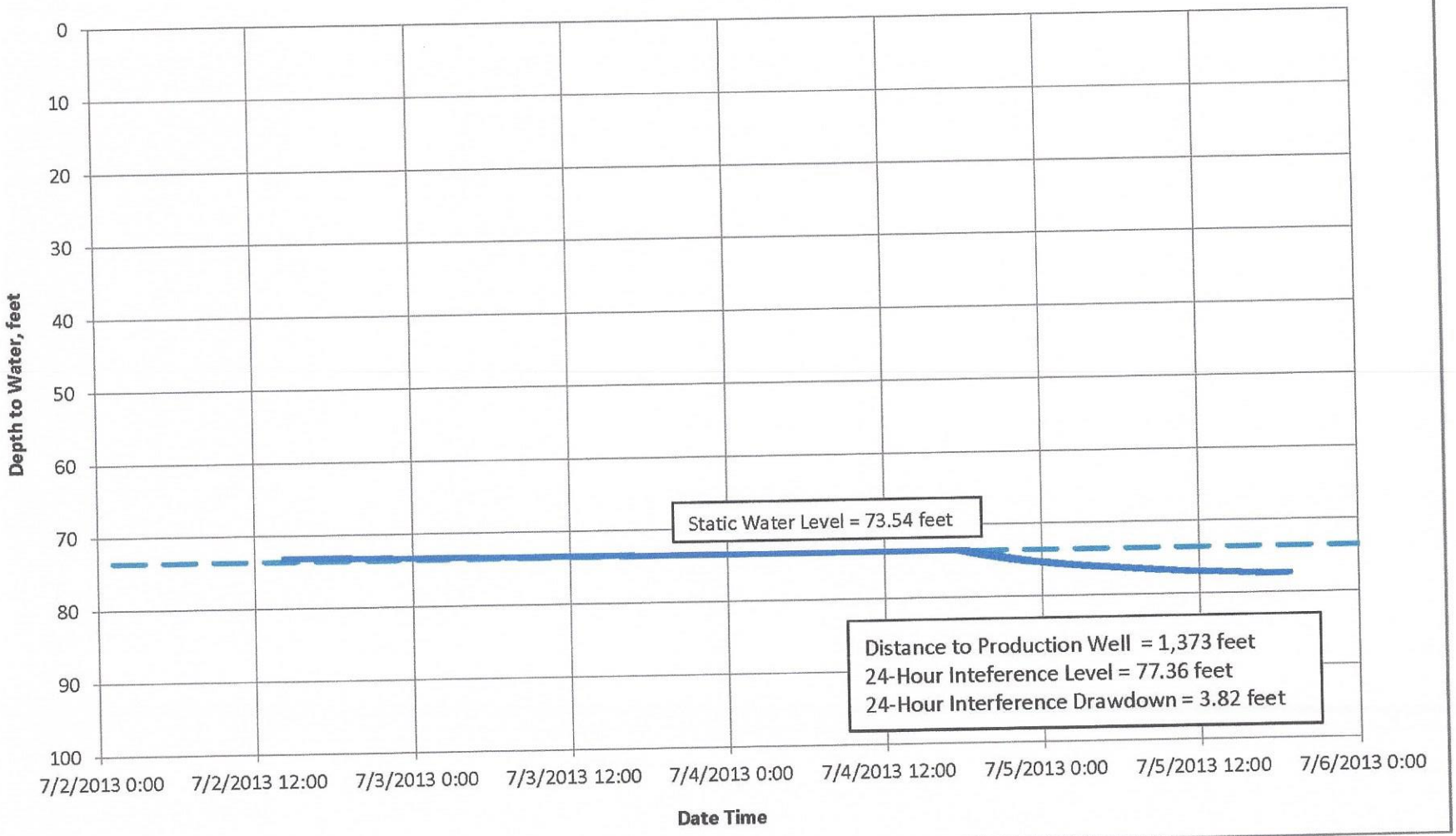
Geo Logic Environmental — CGU 19-04
Pumping Test 7/3/2013 to 7/5/2013
Observation Well
Cooper-Jacob Chart - Drawdown



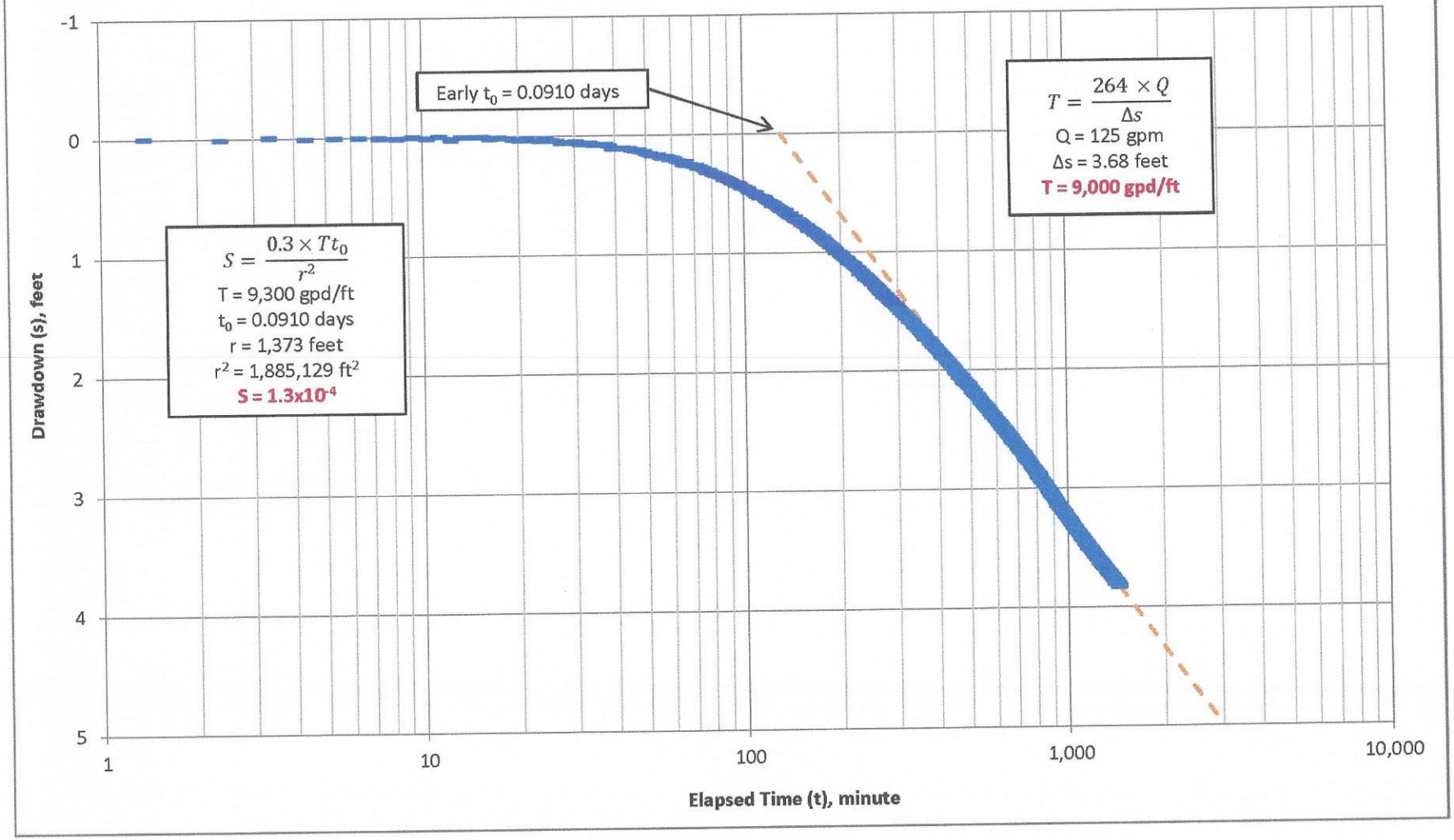
Geo Logic Environmental - CGU 19-04
Pumping Test 7/3/2013 to 7/5/2013
Observation Well Theis Curve



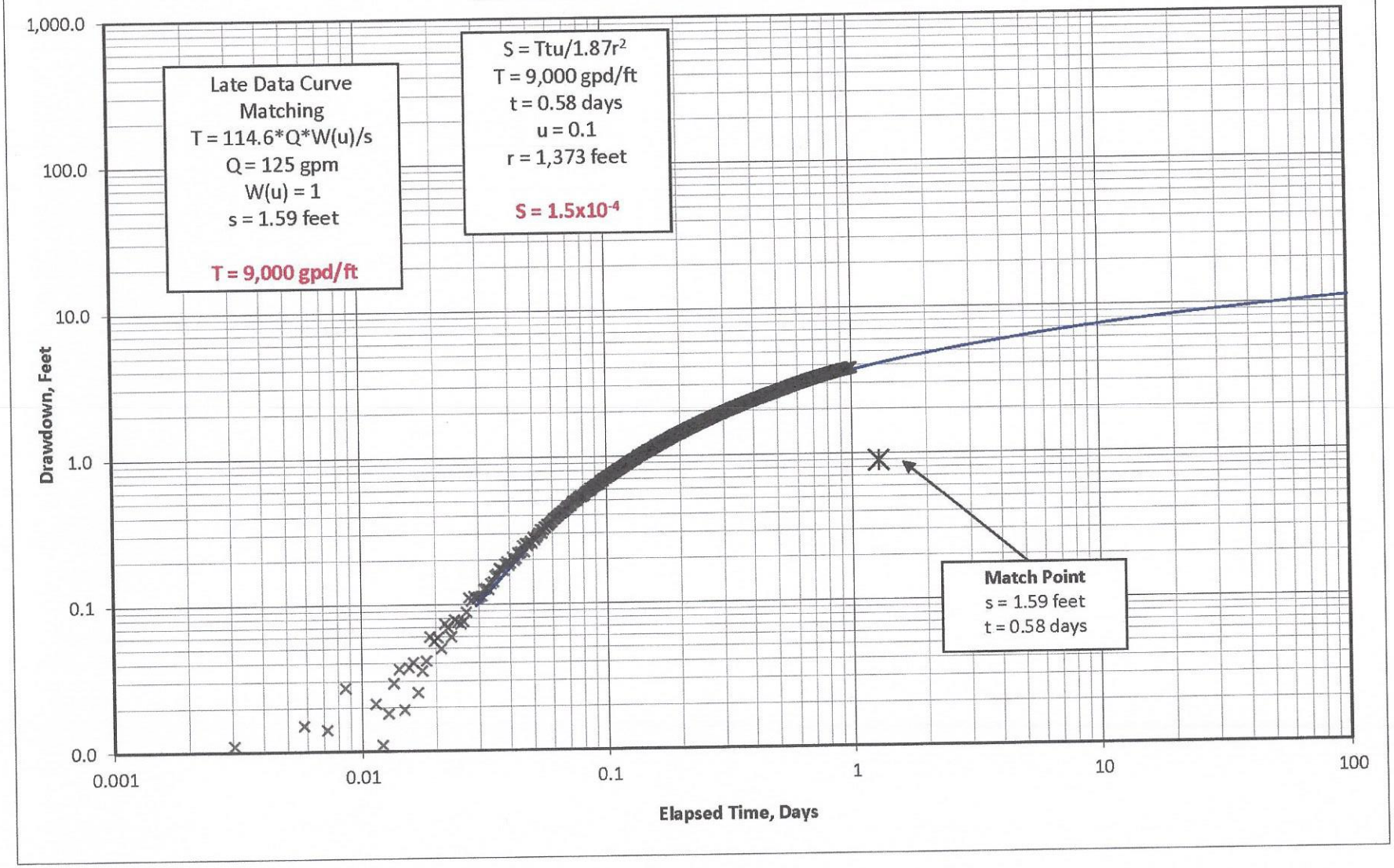
Geo Logic Environmental — CGU 19-53
Pumping Test 7/3/2013 to 7/5/2013
Observation Well
Hydrograph



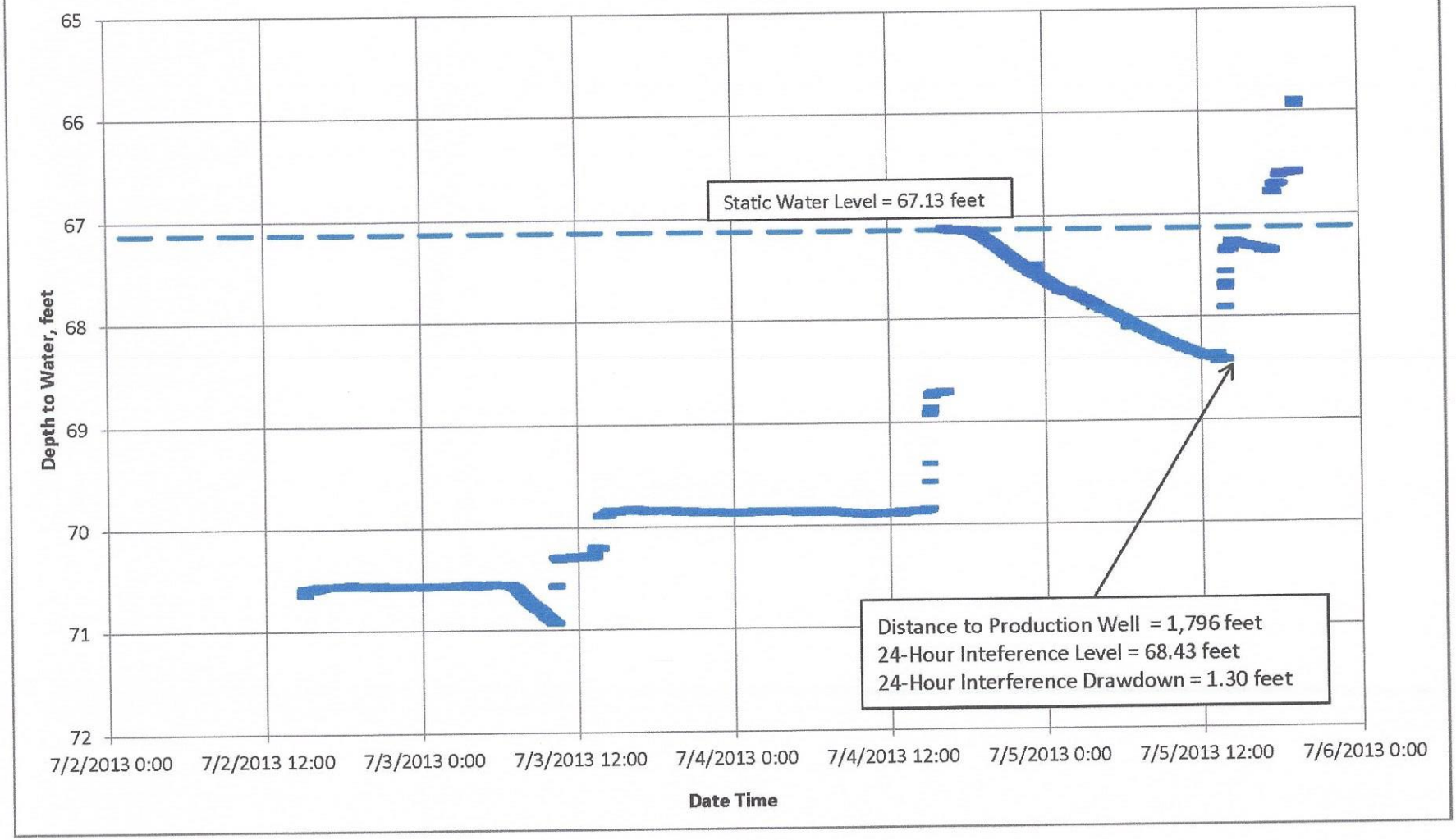
Geo Logic Environmental — CGU 19-53
Pumping Test 7/3/2013 to 7/5/2013
Observation Well
Cooper-Jacob Chart - Drawdown



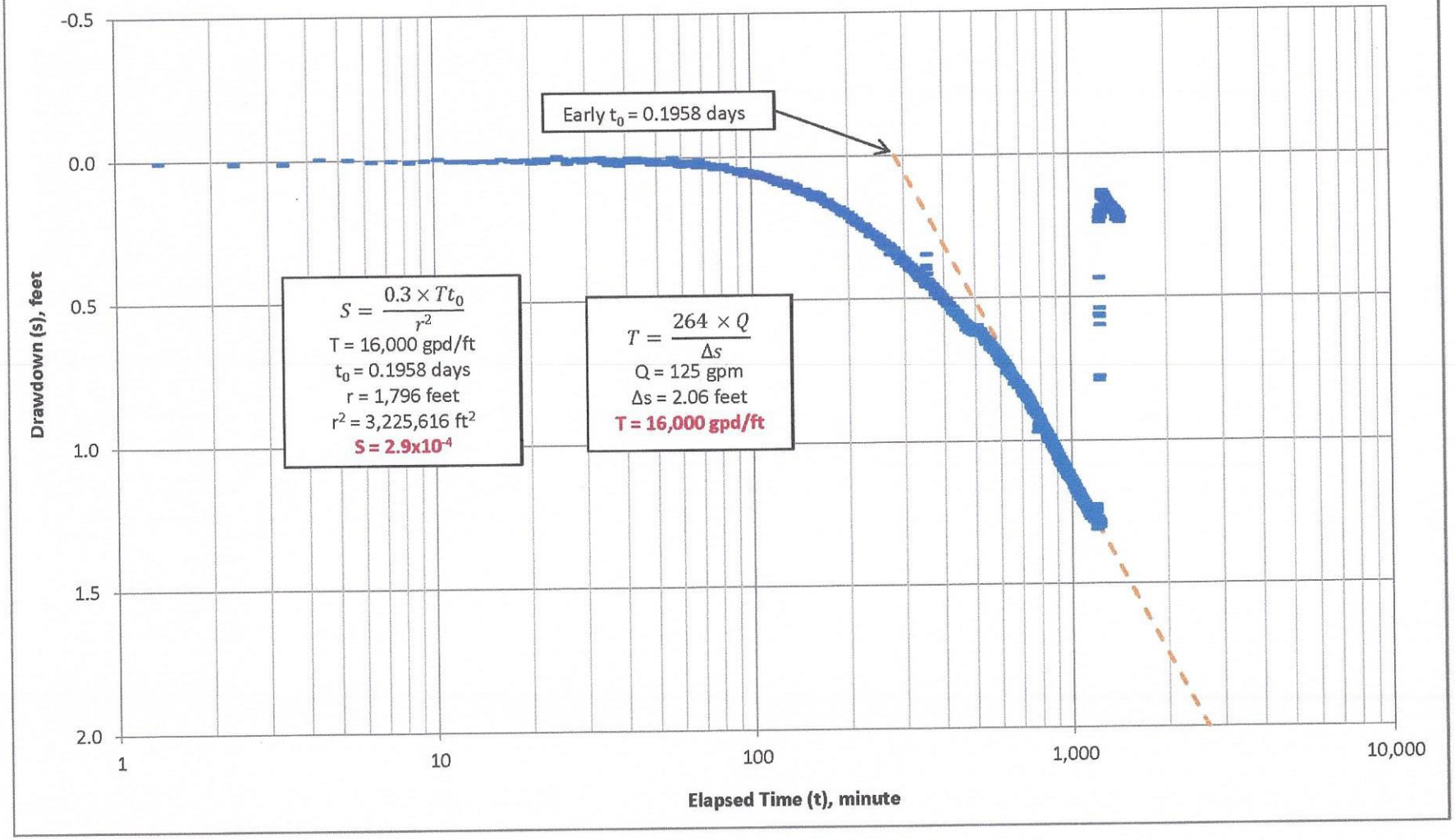
Geo Logic Environmental - CGU 19-53
Pumping Test 7/3/2013 to 7/5/2013
Observation Well Theis Curve



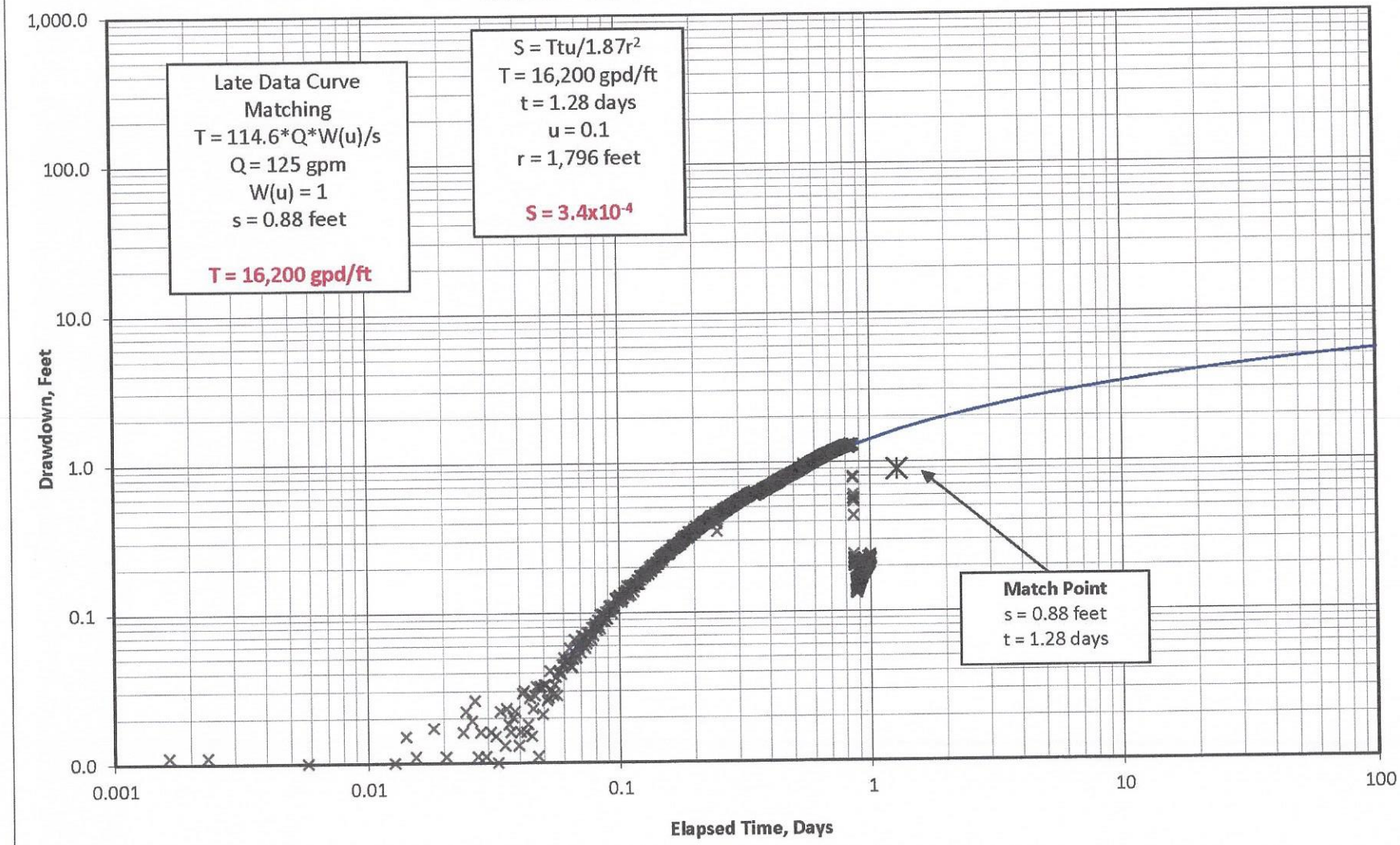
Geo Logic Environmental — CGU 14-16
Pumping Test 7/3/2013 to 7/5/2013
Observation Well
Hydrograph



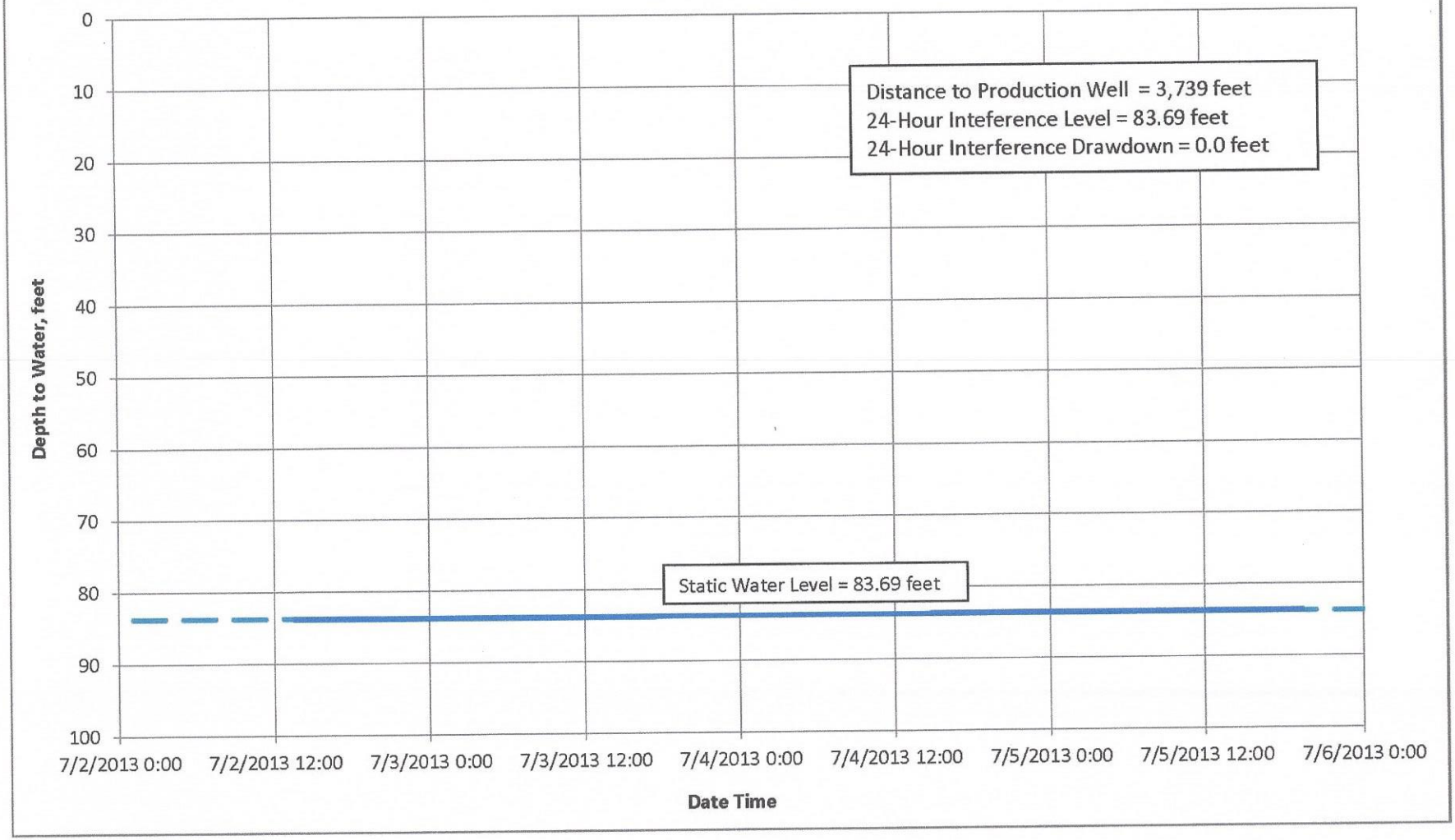
Geo Logic Environmental — CGU 14-16
Pumping Test 7/3/2013 to 7/5/2013
Observation Well
Cooper-Jacob Chart - Drawdown



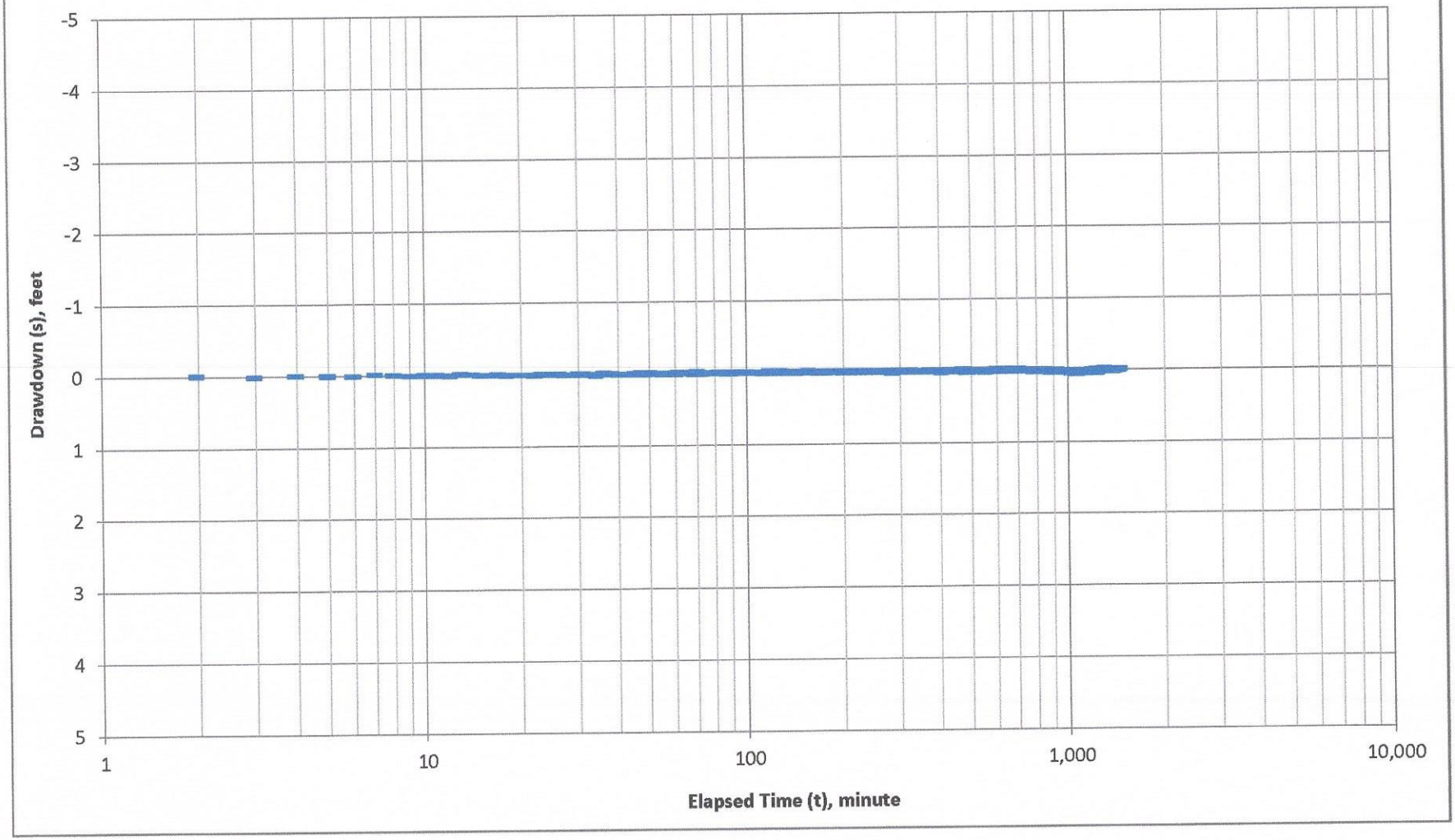
Geo Logic Environmental - CGU 14-16
Pumping Test 7/3/2013 to 7/5/2013
Observation Well Theis Curve

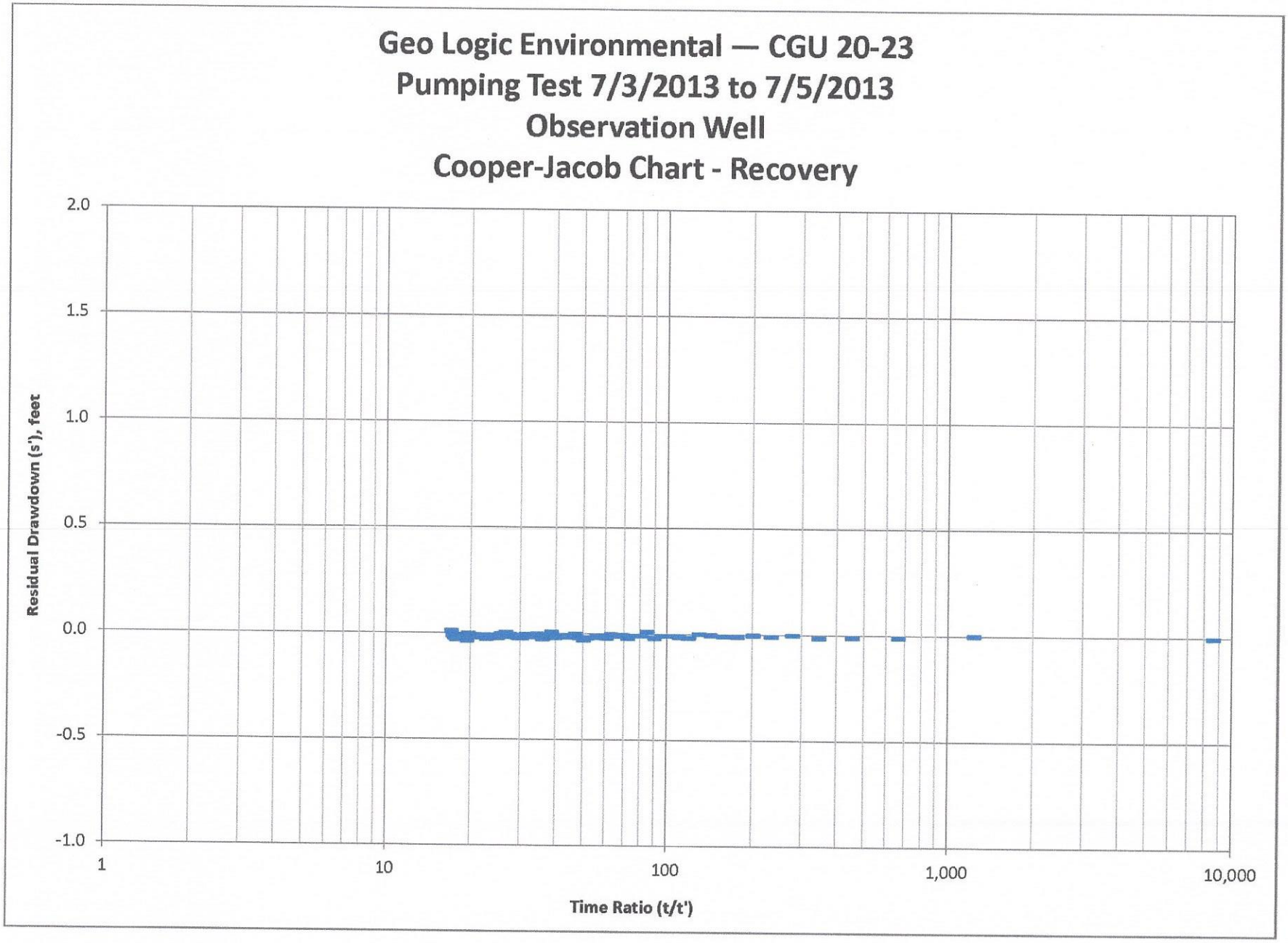


Geo Logic Environmental — CGU 20-23
Pumping Test 7/3/2013 to 7/5/2013
Observation Well
Hydrograph

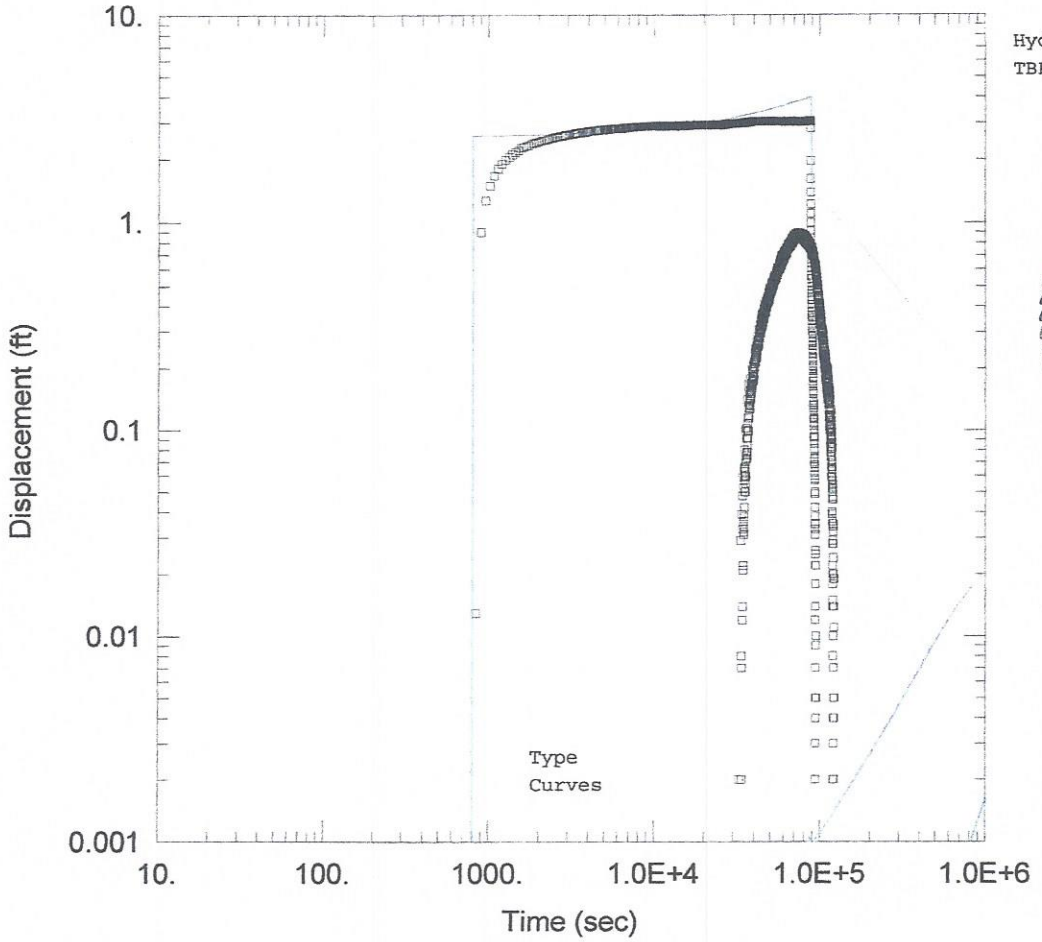


Geo Logic Environmental — CGU 20-23
Pumping Test 7/3/2013 to 7/5/2013
Observation Well
Cooper-Jacob Chart - Drawdown




Geo Logic Environmental — CGU 20-23
Pumping Test 7/3/2013 to 7/5/2013
Observation Well
Cooper-Jacob Chart - Recovery
Residual Drawdown (s'), feet
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
1
10
100
1,000
10,000
Time Ratio (t/t')

Combined Water Level Data From All Monitor Wells
Partially-penetrating, Unconfined Aquifer



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WELL TEST ANALYSIS

Data Set: Z:\...\partial penetrate unconfined.aqt
Date: 01/24/14 Time: 10:45:08

AQUIFER DATA

Saturated Thickness: 210. ft

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
Tiller FP3	0	0
Tiller FP2	671.17	429.83

Observation Wells

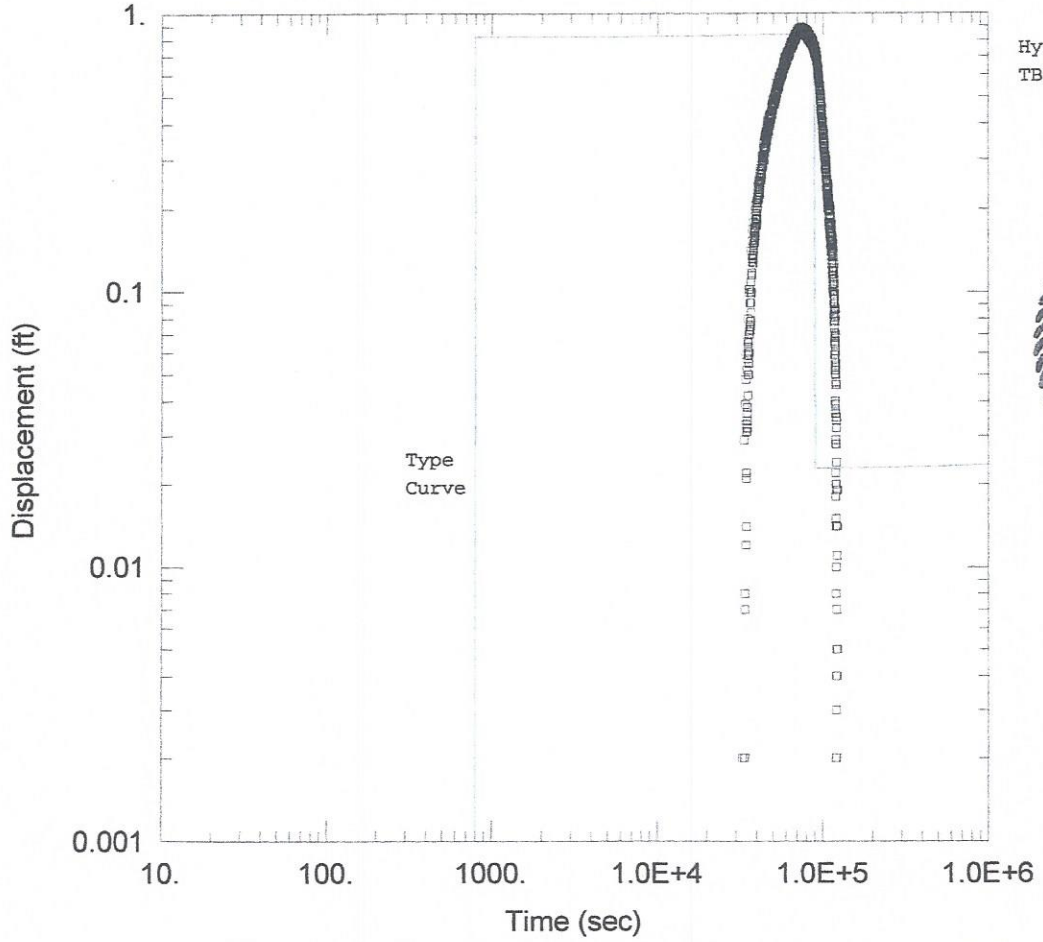
Well Name	X (ft)	Y (ft)
CGU 3-3	14.74	-25.87
CGU 13-53HH	1268.95	1235.74
CGU 3-10	-375.37	-1545.78

SOLUTION

Aquifer Model: Unconfined
Solution Method: Neuman

T = 8523.9 gal/day/ft
S = 2.507E-7
Sy = 0.1
Kz/Kr = 1.492

Water Level Data From CGU 13-53HH Only
Partially-penetrating, Unconfined Aquifer



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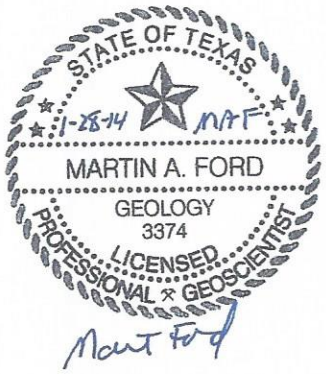


WELL TEST ANALYSIS

Data Set: Z:\...\13_53_only_unconfined.aqt
Date: 01/24/14 Time: 10:10:56

AQUIFER DATA

Saturated Thickness: 210. ft

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
Tiller FP3	0	0
Tiller FP2	671.17	429.83

Observation Wells

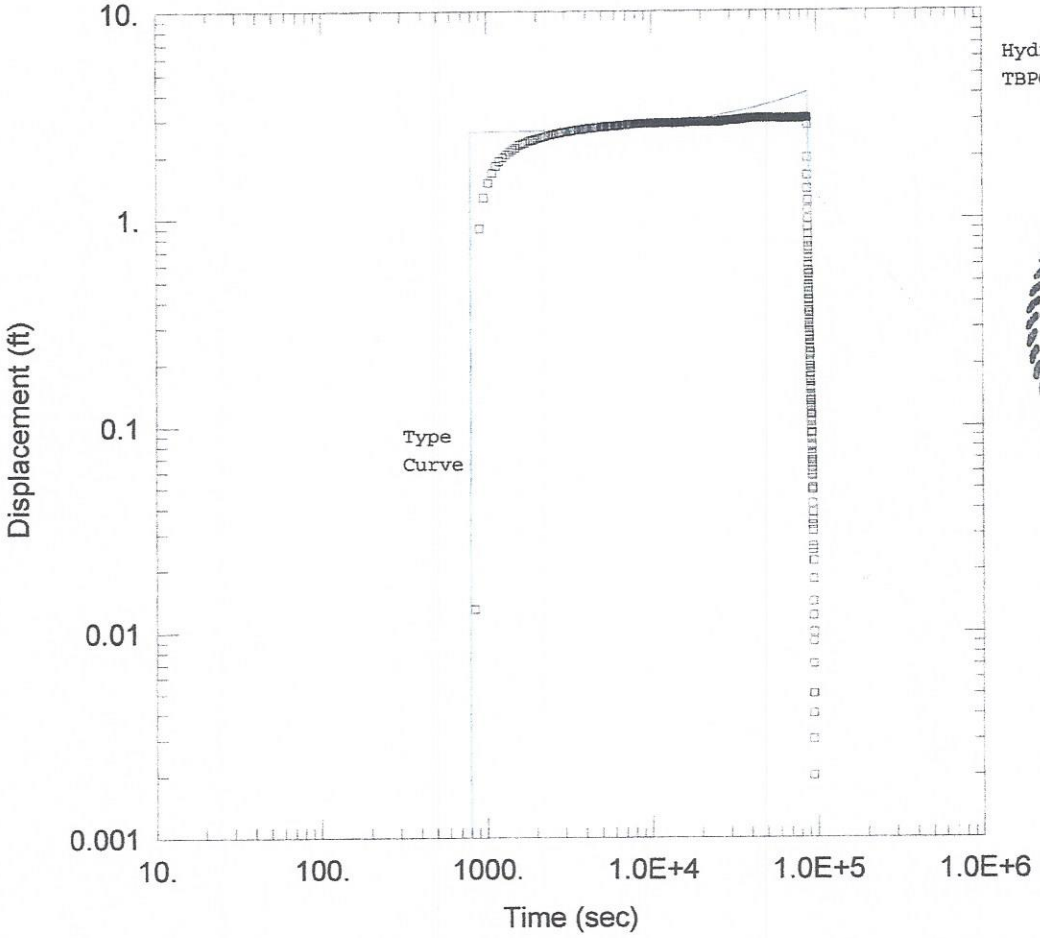
Well Name	X (ft)	Y (ft)
CGU 13-53HH	1268.95	1235.74

SOLUTION

Aquifer Model: Unconfined
Solution Method: Neuman

T = 2274. gal/day/ft
Sy = 0.1
S = 1.183E-8
ß = 7.

Water Level Data From CGU 3-3 Only
Partially-penetrating, Unconfined Aquifer



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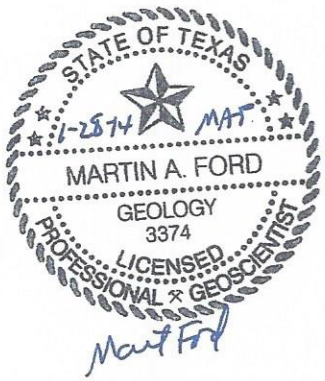


WELL TEST ANALYSIS

Data Set: Z:\...\3_3_only_unconfined.aqt
Date: 01/24/14 Time: 09:59:46

AQUIFER DATA

Saturated Thickness: 210. ft

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
Tiller FP3	0	0
Tiller FP2	671.17	429.83

Observation Wells

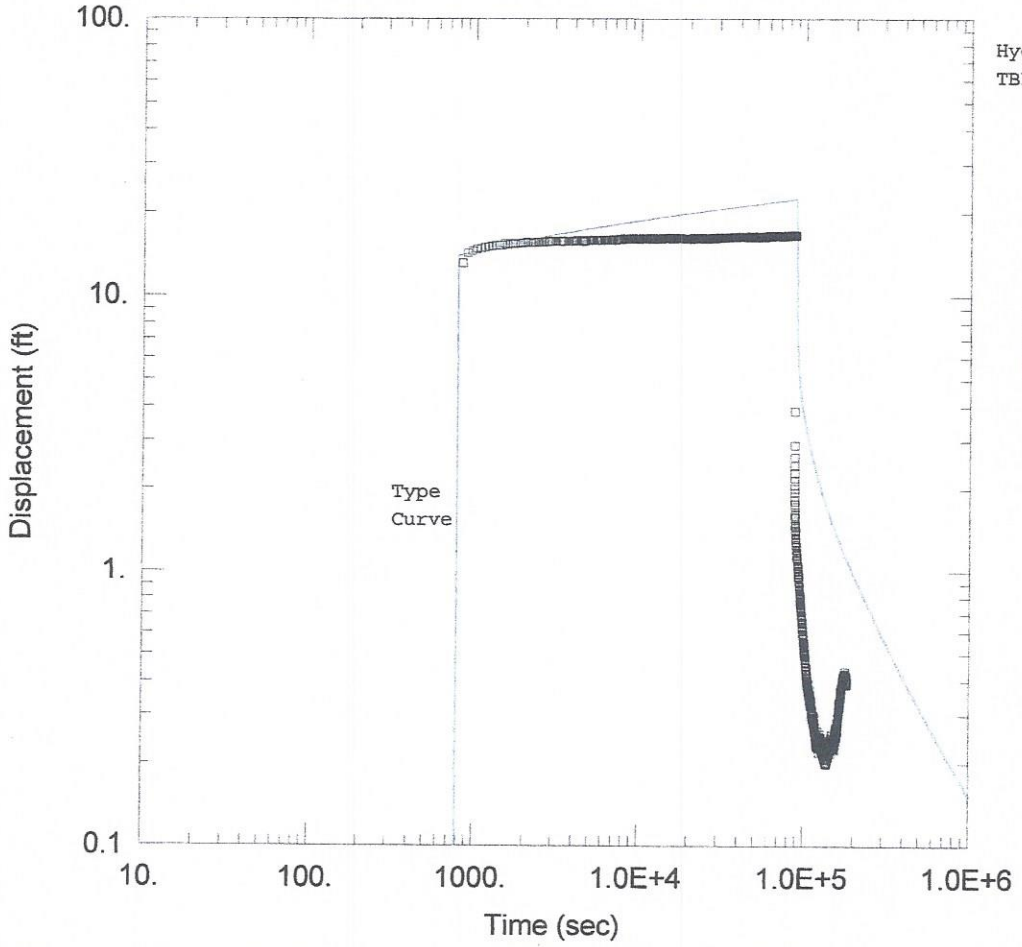
Well Name	X (ft)	Y (ft)
CGU 3-3	14.74	-25.87

SOLUTION

Aquifer Model: Unconfined
Solution Method: Neuman

T = 8355. gal/day/ft
Sy = 0.1
S = 2.28E-7
ß = 0.03

Pumping And Recovery Data From Tiller FP#3
Partially-penetrating, Unconfined Aquifer



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WELL TEST ANALYSIS

Data Set: Z:\...\fp3_unconfined.aqt
Date: 01/24/14 Time: 09:44:04

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1302
Location: Panola County
Test Well: Tiller FP3
Test Date: 01/09/14

AQUIFER DATA

Saturated Thickness: 210. ft

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
Tiller FP3	0	0

Observation Wells

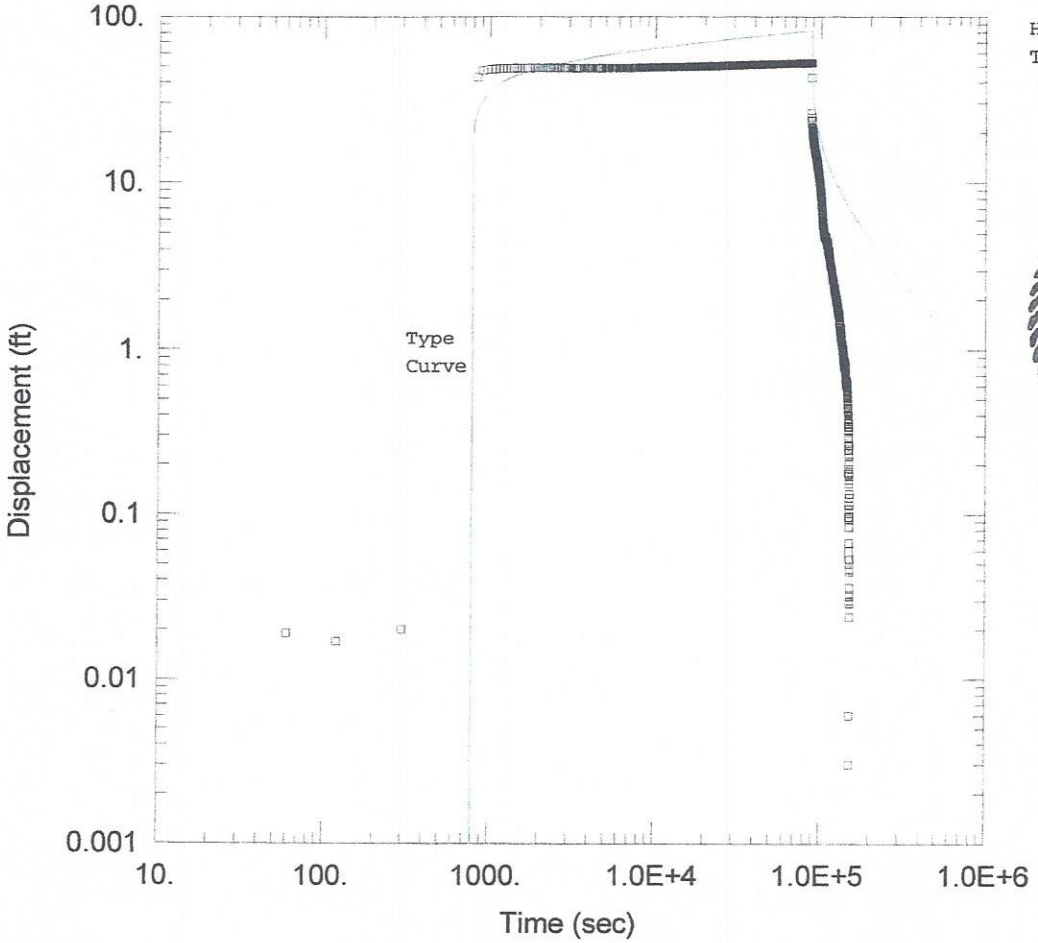
Well Name	X (ft)	Y (ft)
Tiller FP3	0	0

SOLUTION

Aquifer Model: Unconfined
Solution Method: Neuman

T = 7231.2 gal/day/ft
Sy = 0.1
S = 5.969E-25
ß = 0.001

Pumping And Recovery Data From Tiller FP#2
Partially-penetrating, Unconfined Aquifer



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WELL TEST ANALYSIS

Data Set: Z:\...\fp2_unconfined.aqt
Date: 01/24/14 Time: 09:20:53

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1302
Location: Panola County
Test Well: Tiller FP2
Test Date: 01/09/14

AQUIFER DATA

Saturated Thickness: 210. ft

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FP2	0	0

Observation Wells

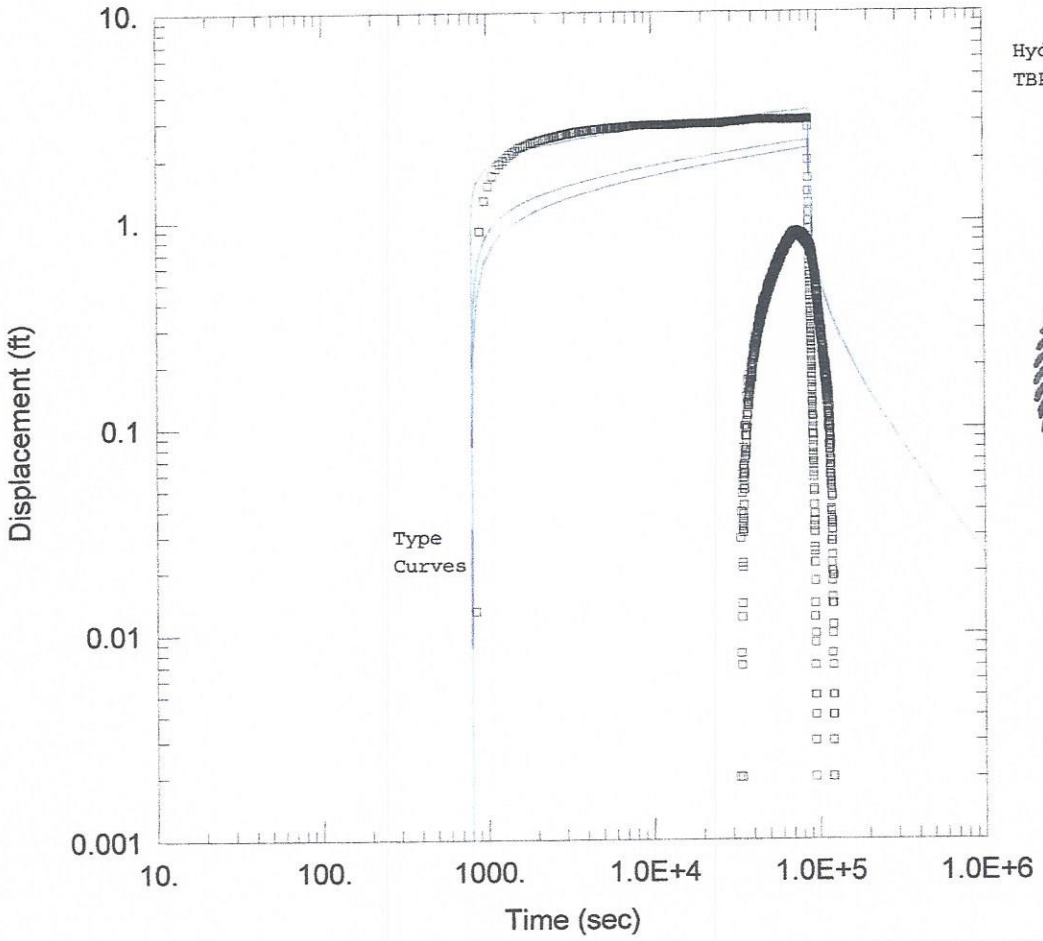
Well Name	X (ft)	Y (ft)
FP2	0	0

SOLUTION

Aquifer Model: Unconfined
Solution Method: Neuman

T = 1712.1 gal/day/ft
Sy = 0.1
S = 5.073E-18
ß = 0.1

Combined Water Level Data From All Monitor Wells
Partially-penetrating, Confined Aquifer



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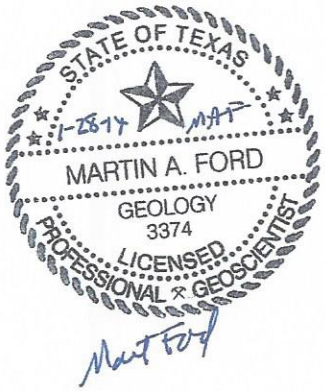


WELL TEST ANALYSIS

Data Set: Z:\...\tiller pump test_partial penetrate.aqt
Date: 01/24/14 Time: 10:33:30

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1302
Location: Panola County
Test Well: Tiller FP3
Test Date: 01/09/14

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
Tiller FP3	0	0
Tiller FP2	671.17	429.83

Observation Wells

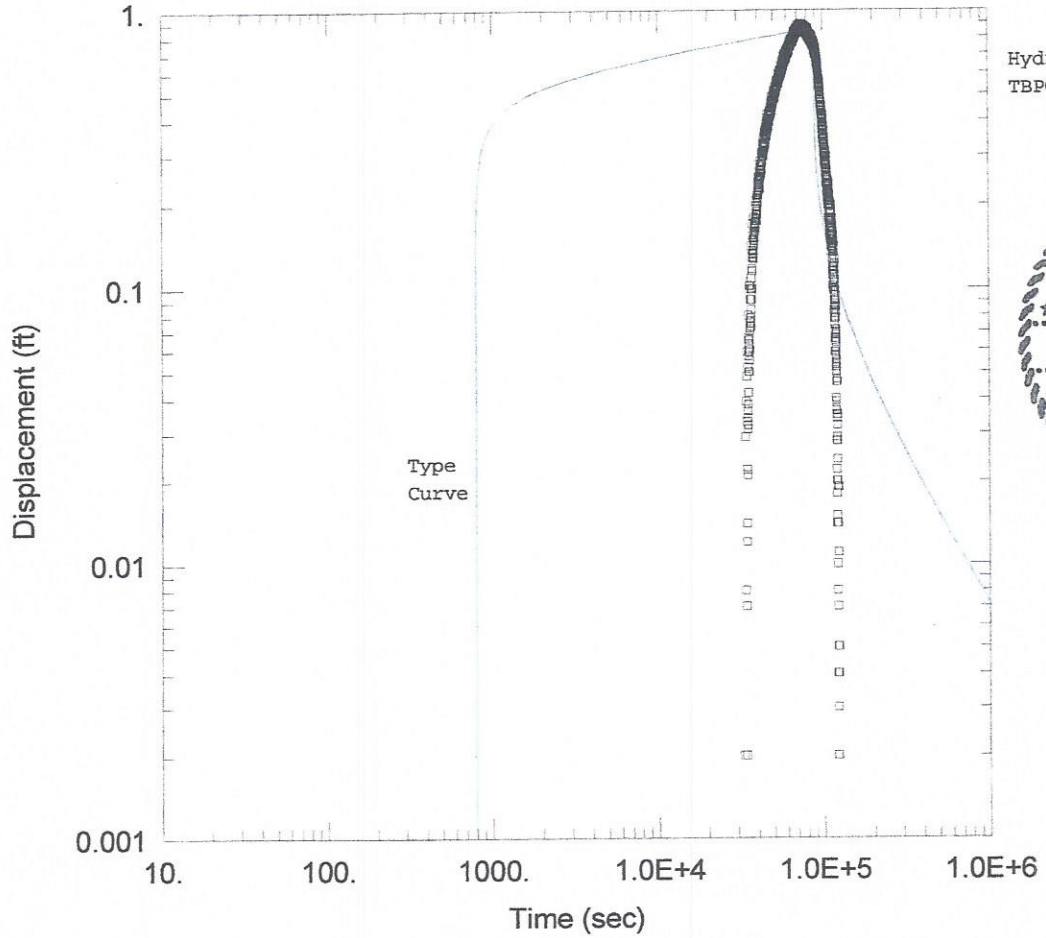
Well Name	X (ft)	Y (ft)
CGU 3-3	14.74	-25.87
CGU 13-53HH	1268.95	1235.74
CGU 3-10	-375.37	-1545.78

SOLUTION

Aquifer Model: Confined
Solution Method: Theis

T = 9.806E+4 gal/day/ft
Kz/Kr = 1.
S = 1.467E-6
b = 210. ft

Water level Data From CGU 13-53HH Only
Partially-penetrating, Confined Aquifer



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WELL TEST ANALYSIS

Data Set: Z:\...\13_53_only.aqt
Date: 01/24/14 Time: 10:04:54

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1302
Location: Panola County
Test Well: Tiller FP3
Test Date: 01/09/14

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
Tiller FP3	0	0
Tiller FP2	671.17	429.83

Observation Wells

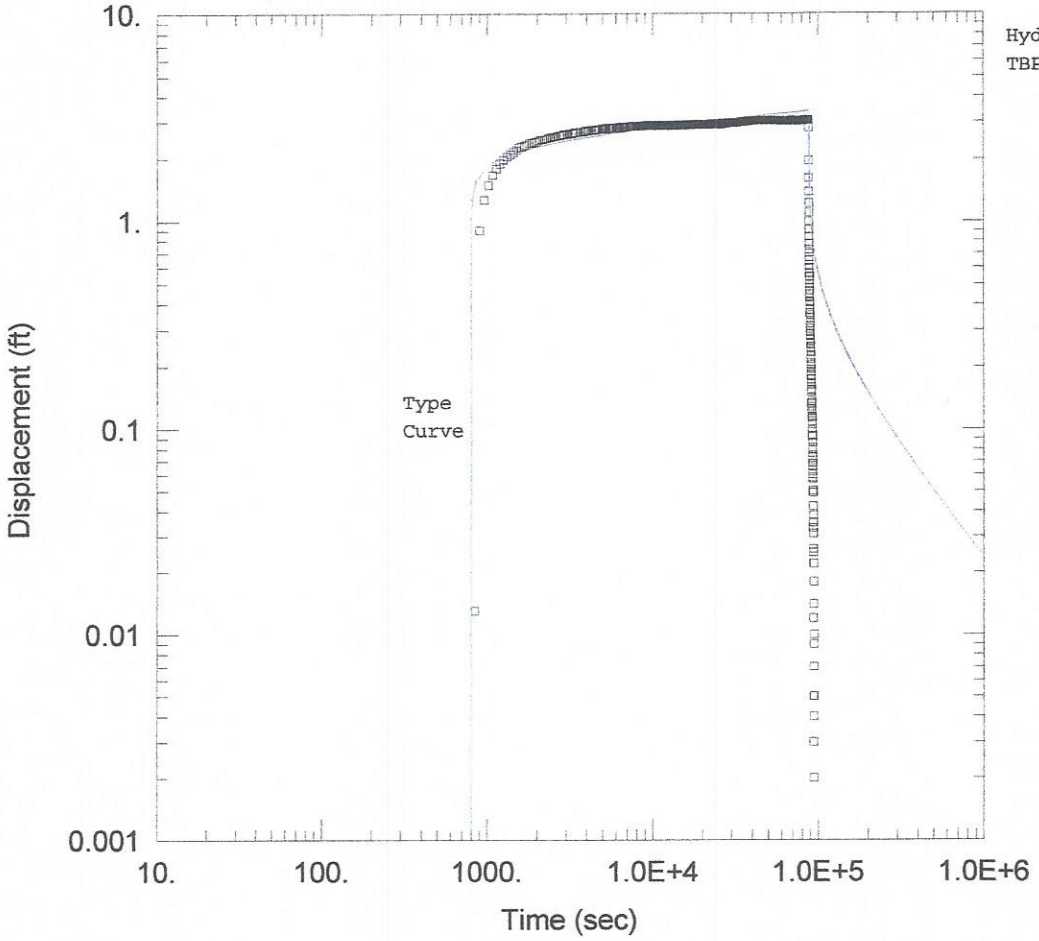
Well Name	X (ft)	Y (ft)
CGU 13-53HH	1268.95	1235.74

SOLUTION

Aquifer Model: Confined
Solution Method: Theis

T = 3.277E+5 gal/day/ft
Kz/Kr = 1.
S = 9.589E-7
b = 210. ft

Water Level Data From CGU 3-3 Only
Partially-penetrating, Confined Aquifer



Hydrex Environmental, Inc.
TBPG Firm No. 50027

WELL TEST ANALYSIS

Data Set: Z:\...\3_3_only.aqt
Date: 01/24/14 Time: 09:50:57

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1302
Location: Panola County
Test Well: Tiller FP3
Test Date: 01/09/14

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
Tiller FP3	0	0
Tiller FP2	671.17	429.83

Observation Wells

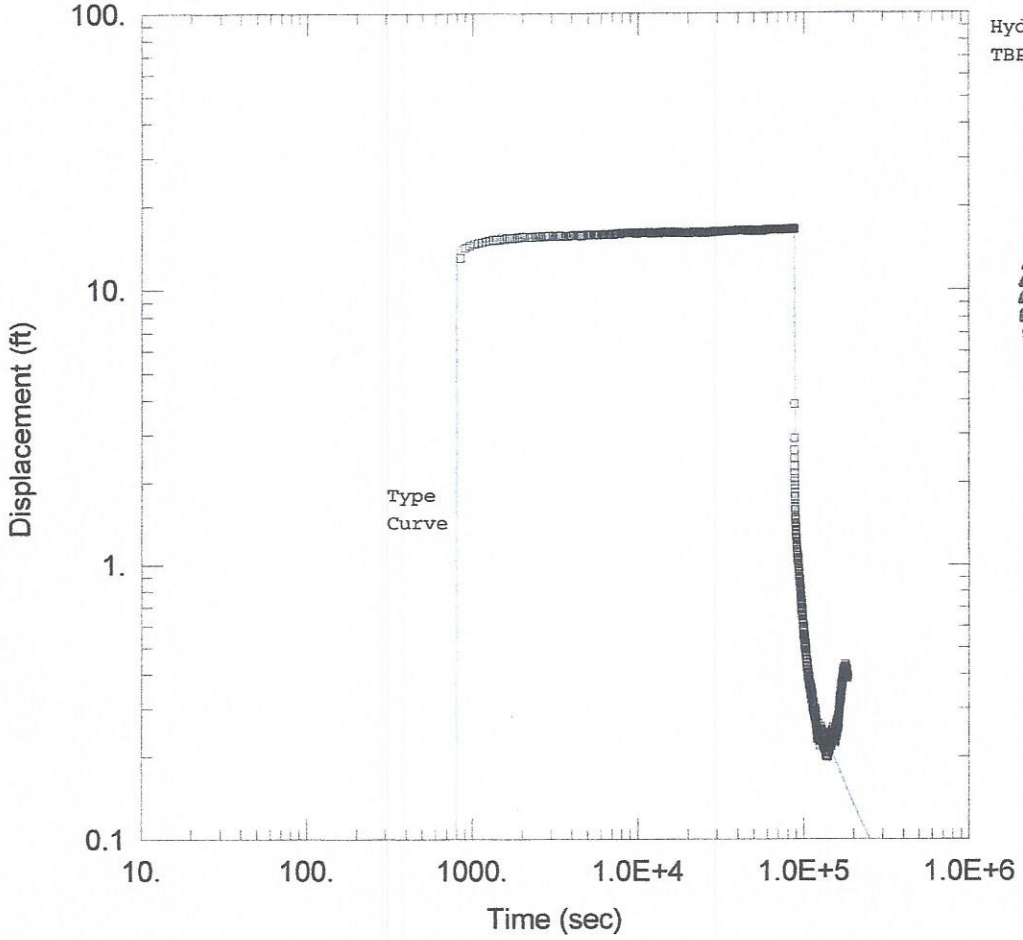
Well Name	X (ft)	Y (ft)
CGU 3-3	14.74	-25.87

SOLUTION

Aquifer Model: Confined
Solution Method: Theis

T = 9.806E+4 gal/day/ft
S = 1.467E-6
Kz/Kr = 1.
b = 210. ft

Pumping And Recovery Data From Tiller FP#3
Partially-penetrating, Confined Aquifer



Hydrex Environmental, Inc.
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STATE OF TEXAS
1-28-14 MAT
MARTIN A. FORD
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PROFESSIONAL GEOSCIENTIST

Mart Ford

WELL TEST ANALYSIS

Data Set: Z:\...\fp3.aqt
Date: 01/24/14 Time: 09:37:54

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1302
Location: Panola County
Test Well: Tiller FP3
Test Date: 01/09/14

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
Tiller FP3	0	0

Observation Wells

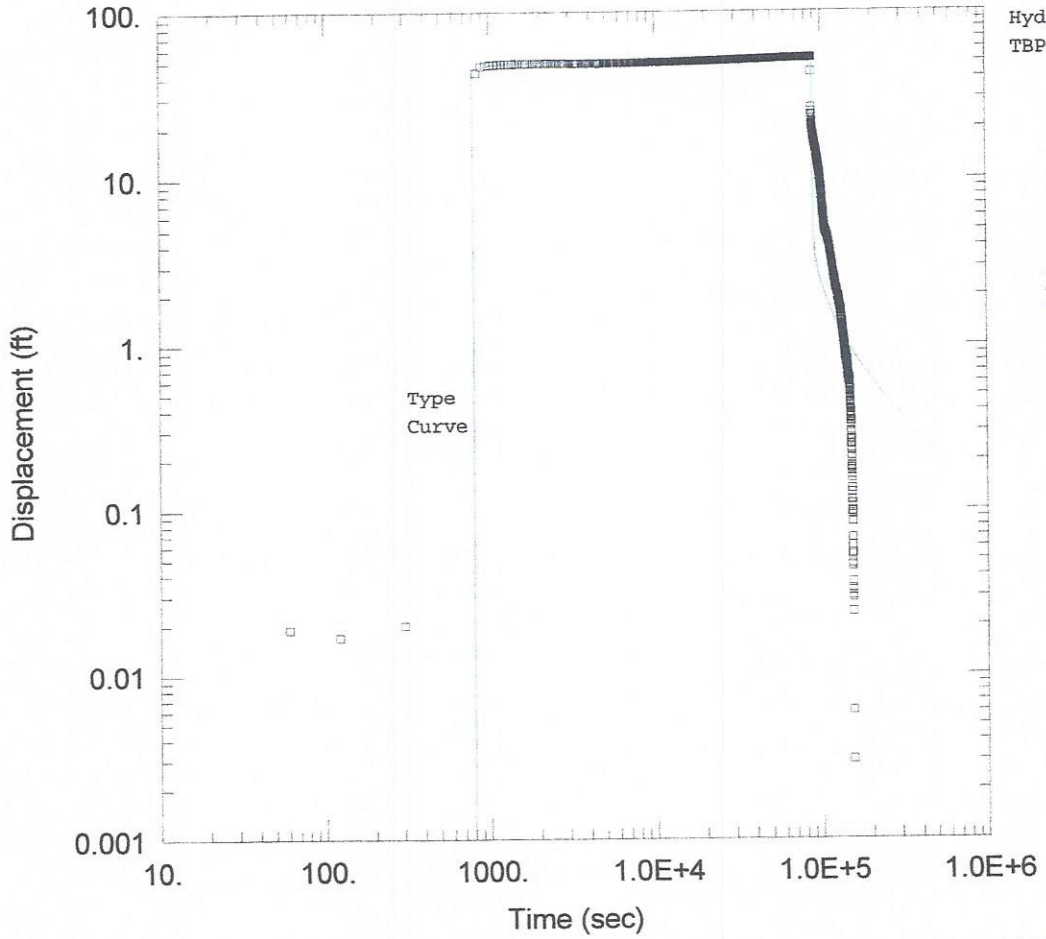
Well Name	X (ft)	Y (ft)
▫ Tiller FP3	0	0

SOLUTION

Aquifer Model: Confined
Solution Method: Theis

T = 5.171E+4 gal/day/ft
Kz/Kr = 1.
S = 5.215E-24
b = 210. ft

Pumping And Recovery Data From Tiller FP#2
Partially-penetrating, Confined Aquifer



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WELL TEST ANALYSIS

Data Set: Z:\...\fp2.aqt
Date: 01/24/14
Time: 09:33:00

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1302
Location: Panola County
Test Well: Tiller FP2
Test Date: 01/09/14

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FP2	0	0

Observation Wells

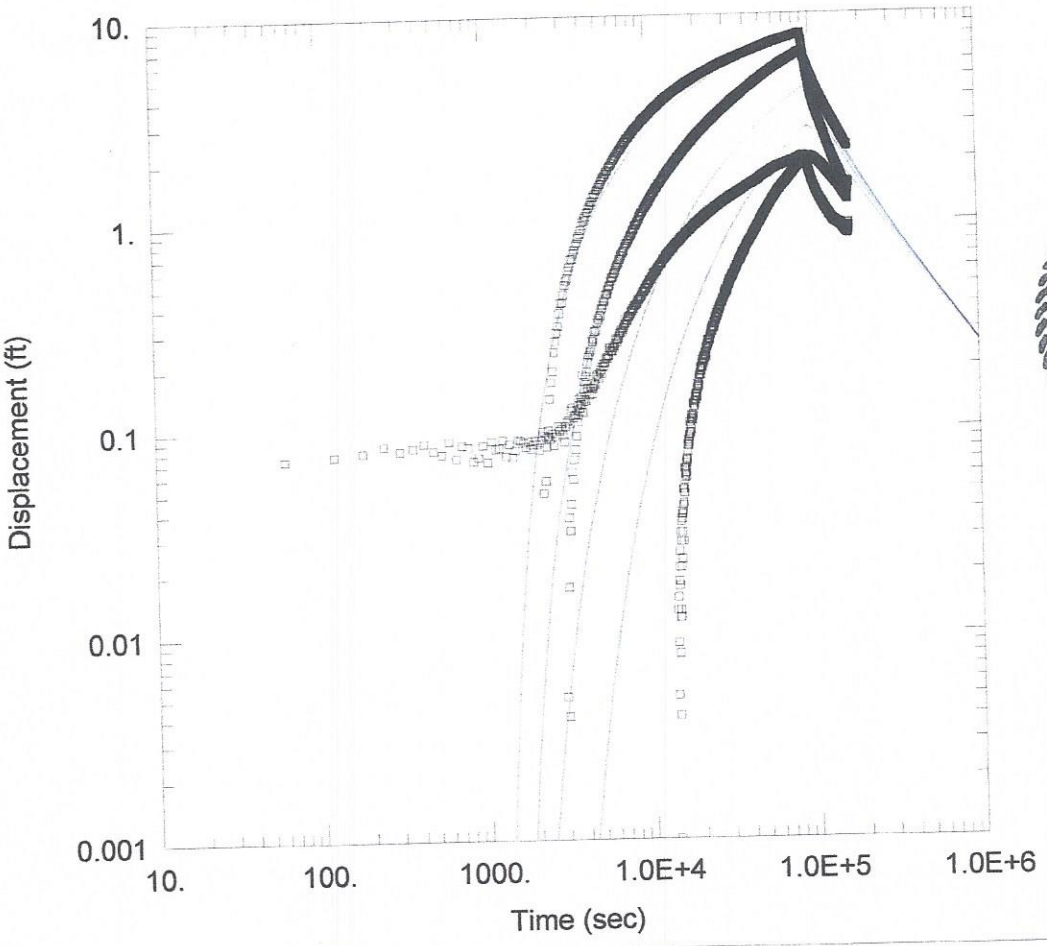
Well Name	X (ft)	Y (ft)
FP2	0	0

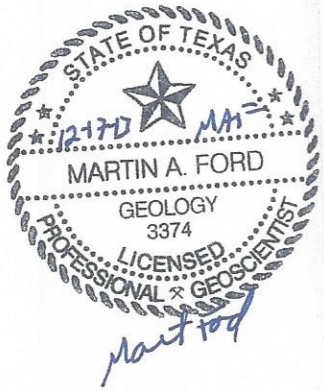
SOLUTION

Aquifer Model: Confined
Solution Method: Theis

T = 1.268E+4 gal/day/ft
Kz/Kr = 1.
S = 3.075E-17
b = 210. ft

Combined Water Level Data From All Monitor Wells





WELL TEST ANALYSIS

Data Set: Z:\...\Anadarko Pump Test_1.aqt
Date: 12/13/13
Time: 09:58:21

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1301
Location: Panola County
Test Well: Mills FP1
Test Date: 11/19/13

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
Mills FP #2	0	0
Mills FP #1	-65	-1042

Observation Wells

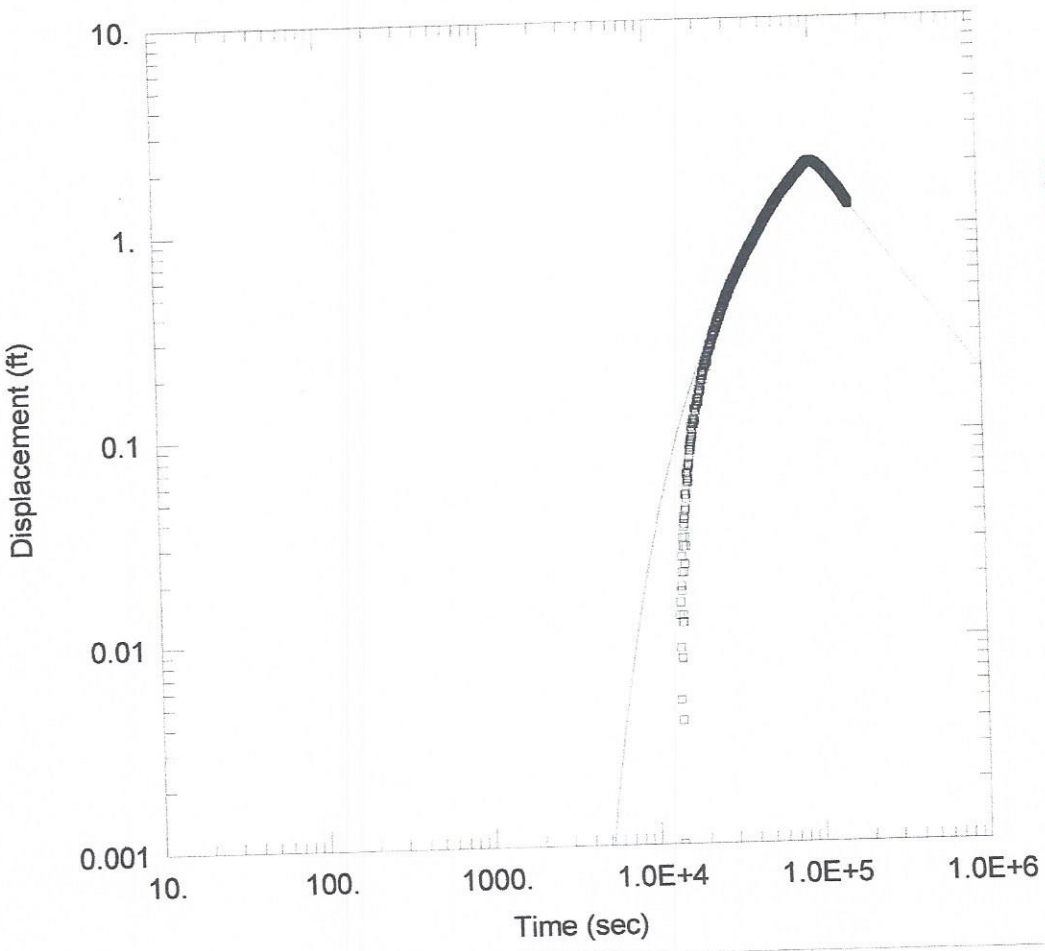
Well Name	X (ft)	Y (ft)
CGU 12-10	-728	-404
CGU 11-51HH	1233	-1978
CGU 12-5	1125	-1
CGU 12-52HH	993	2070

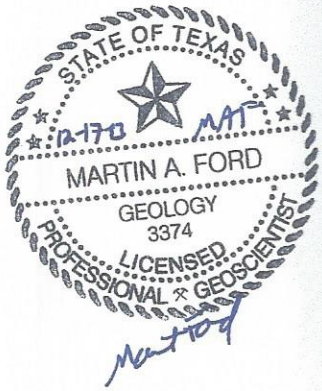
SOLUTION

Aquifer Model: Confined
T = 1.598E+4 gal/day/ft
Kz/Kr = 1.

Solution Method: Theis
S = 0.0003361
b = 100. ft

Water Level Data From CGU 12-52HH Only





WELL TEST ANALYSIS

Data Set: Z:\...\CGU 12_52HH.aqt
Date: 12/13/13
Time: 10:01:45

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1301
Location: Panola County
Test Well: Mills FP1
Test Date: 11/19/13

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
Mills FP #2	0	0
Mills FP #1	-65	-1042

Observation Wells

Well Name	X (ft)	Y (ft)
CGU 12-52HH	993	2070

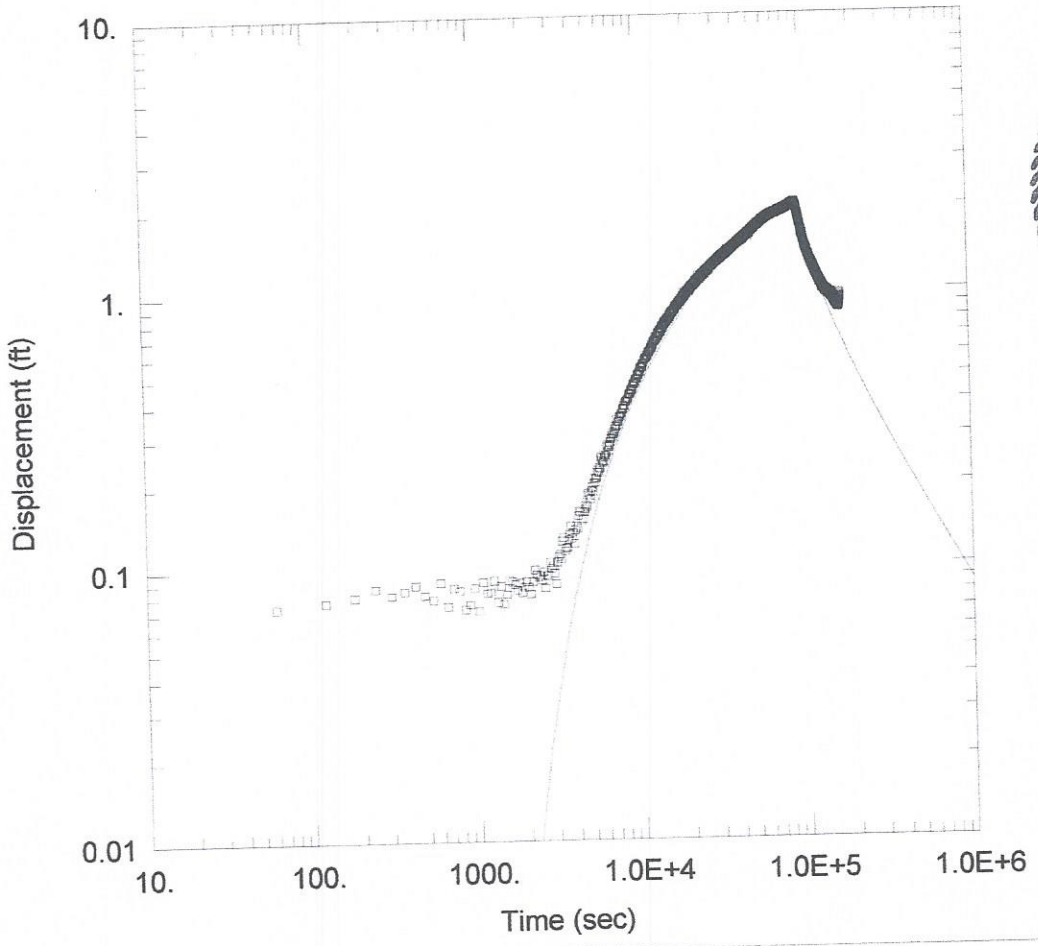
SOLUTION

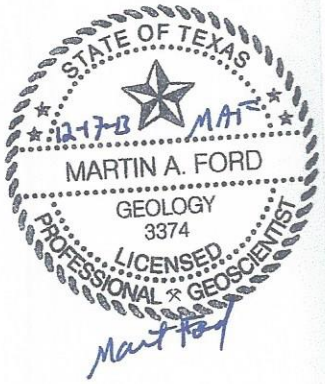
Aquifer Model: Confined
Solution Method: Theis

T = 2.059E+4 gal/day/ft
Kz/Kr = 1.

S = 0.0005204
b = 100. ft

Water Level Data From CGU 11-51HH Only





WELL TEST ANALYSIS

Data Set: Z:\...\CGU 11_51HH.aqt
Date: 12/13/13
Time: 10:00:45

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1301
Location: Panola County
Test Well: Mills FP1
Test Date: 11/19/13

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
Mills FP #2	0	0
Mills FP #1	-65	-1042

Observation Wells

Well Name	X (ft)	Y (ft)
CGU 11-51HH	1233	-1978

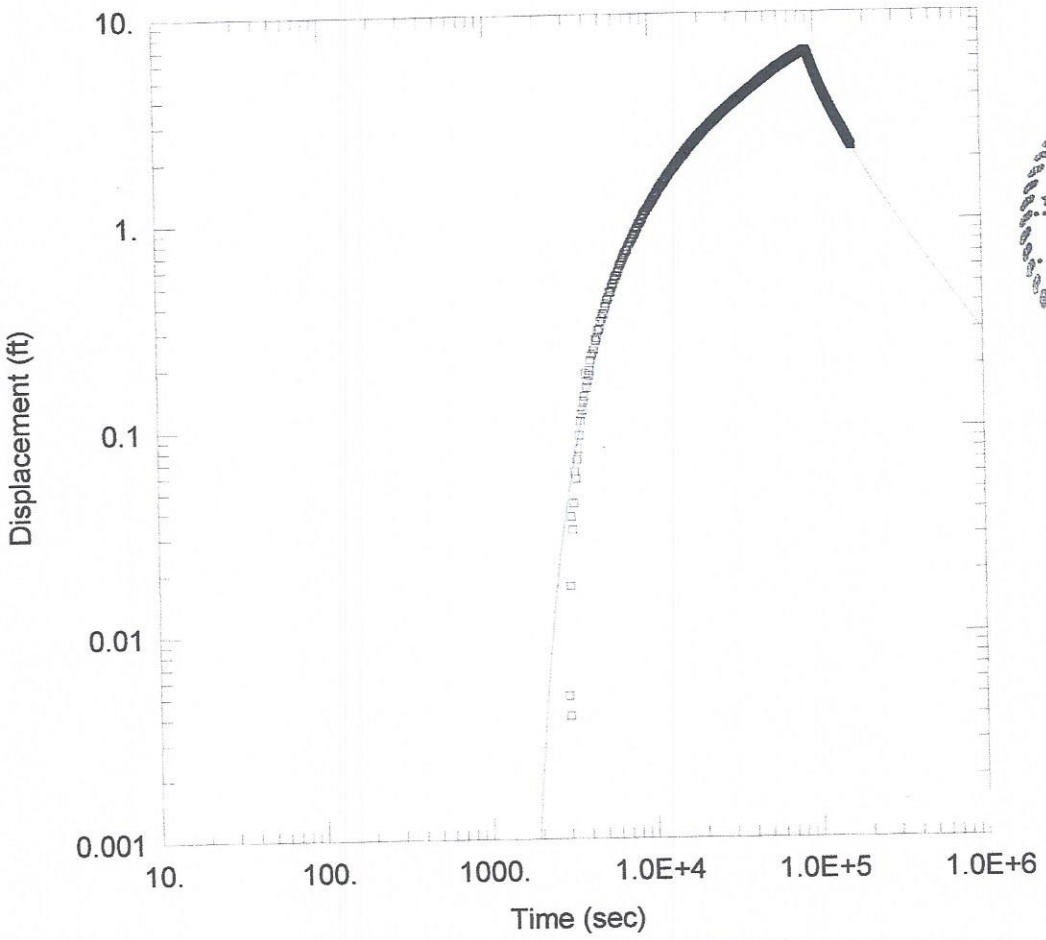
SOLUTION

Aquifer Model: Confined
Solution Method: Theis

T = 4.831E+4 gal/day/ft
Kz/Kr = 1.

S = 0.0004429
b = 100. ft

Water Level Data From CGU 12-5 Only



WELL TEST ANALYSIS

Data Set: Z:\...\CGU 12_5.aqt
Date: 12/13/13
Time: 10:01:13

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1301
Location: Panola County
Test Well: Mills FP1
Test Date: 11/19/13

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
Mills FP #2	0	0
Mills FP #1	-65	-1042

Observation Wells

Well Name	X (ft)	Y (ft)
CGU 12-5	1125	-1

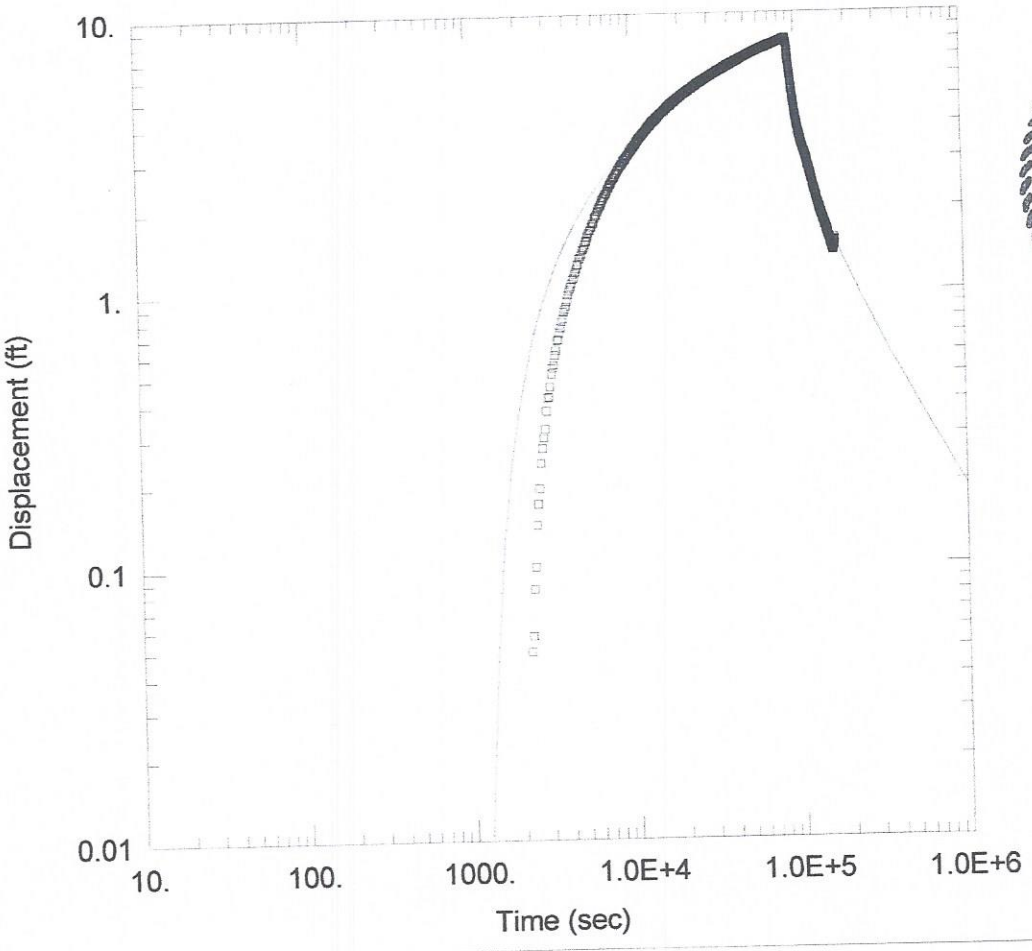
SOLUTION

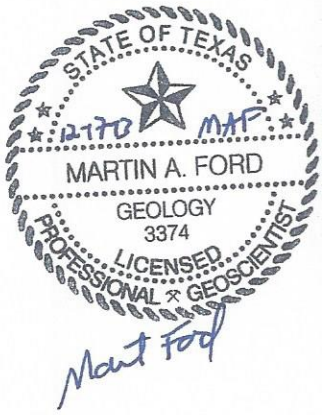
Aquifer Model: Confined
Solution Method: Theis

T = 1.451E+4 gal/day/ft
Kz/Kr = 1.

S = 0.0003409
b = 100. ft

Water Level Data From CGU 12-10 Only





Mart Ford

WELL TEST ANALYSIS

Data Set: Z:\...\CGU12_10.aqt
Date: 12/13/13
Time: 10:02:19

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1301
Location: Panola County
Test Well: Mills FP1
Test Date: 11/19/13

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
Mills FP #2	0	0
Mills FP #1	-65	-1042

Observation Wells

Well Name	X (ft)	Y (ft)
CGU 12-10	-728	-404

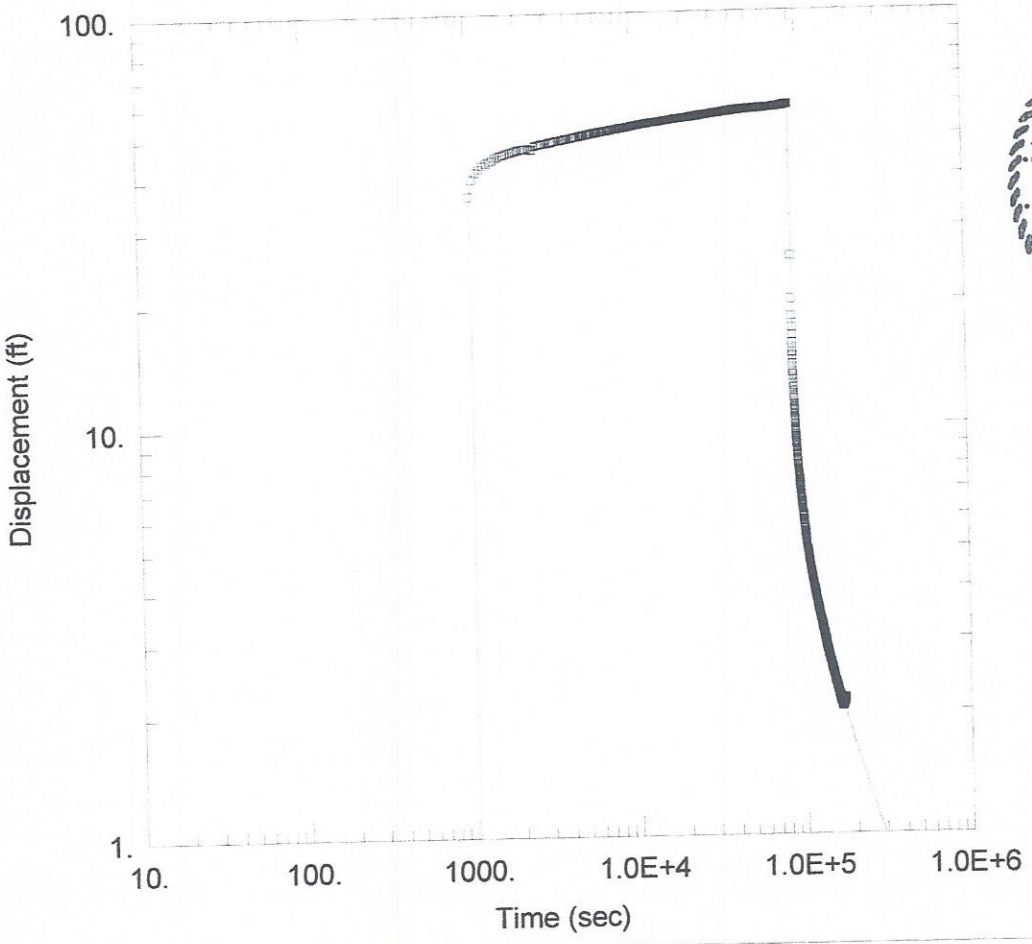
SOLUTION

Aquifer Model: Confined
Solution Method: Theis

T = 2.188E+4 gal/day/ft
Kz/Kr = 1.

S = 0.0002046
b = 100. ft

Pumping And Recovery Data From Mills FP #2



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WELL TEST ANALYSIS

Data Set: Z:\...\Mills_FP2_2.aqt
Date: 12/13/13
Time: 10:00:08

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1301
Location: Panola County
Test Well: Mills FP2
Test Date: 11/19/13

WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Mills FP #2	0	0	Mills FP #2	0	0

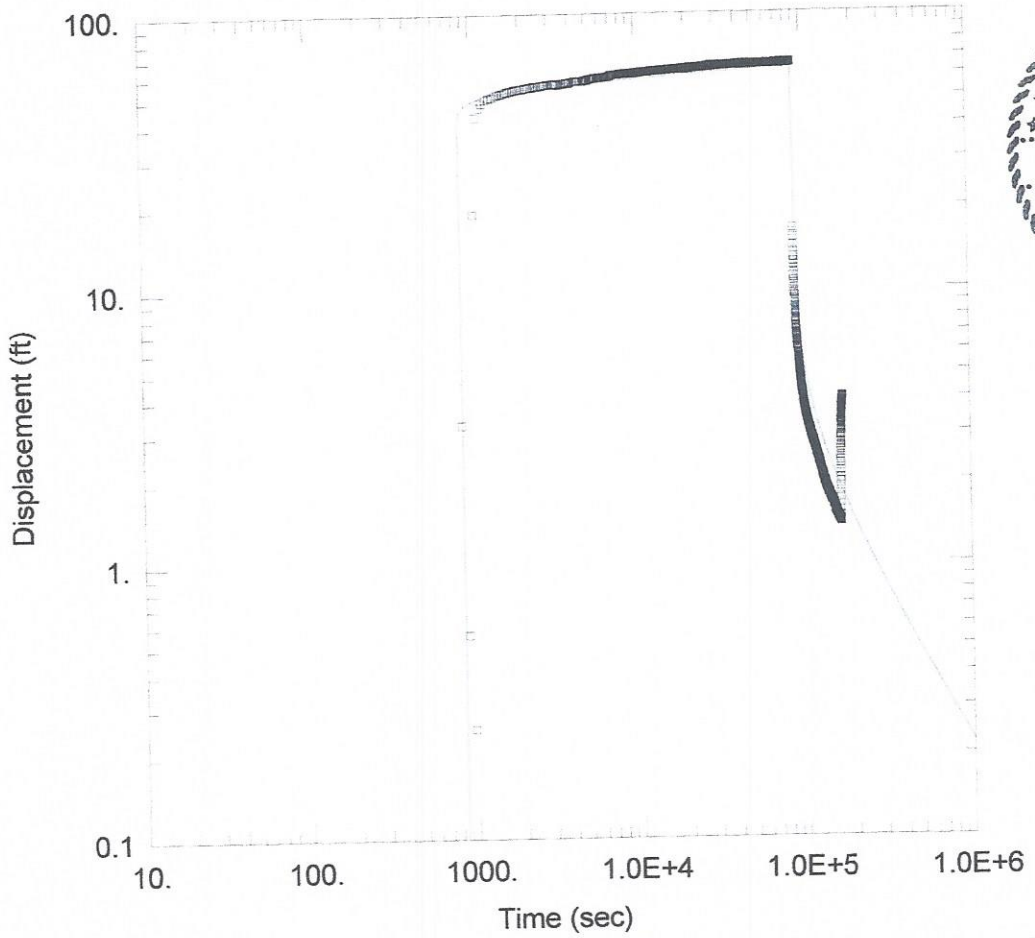
SOLUTION

Aquifer Model: Confined
Solution Method: Theis

T = 8267.9 gal/day/ft
Kz/Kr = 1.

S = 8.325E-6
b = 100. ft

Pumping And Recovery Data From Mills FP #1



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WELL TEST ANALYSIS

Data Set: Z:\...\Mills_FP1_1.aqt
Date: 12/13/13
Time: 09:59:28

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1301
Location: Panola County
Test Well: Mills FP1
Test Date: 11/19/13

WELL DATA

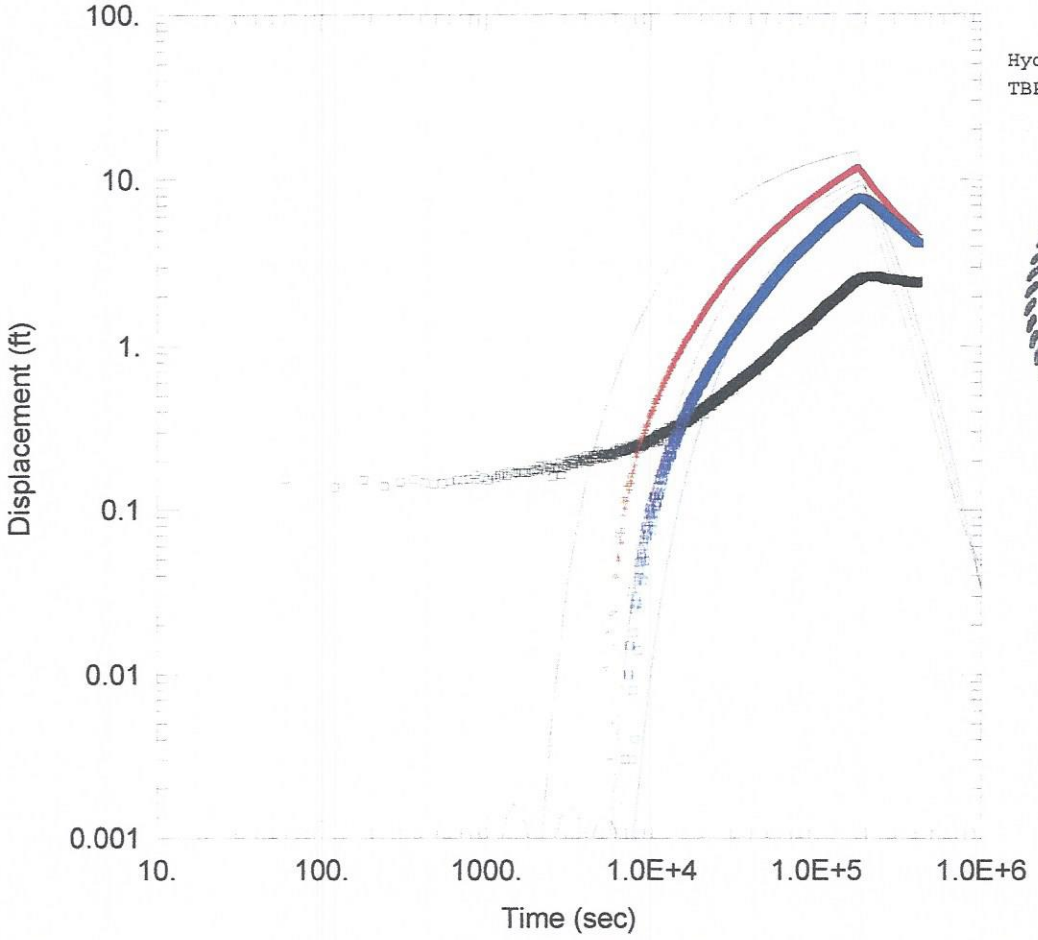
Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Mills FP #1	0	0	Mills FP #1	0	0

SOLUTION

Aquifer Model: Confined
T = 9498.6 gal/day/ft
Kz/Kr = 1.

Solution Method: Theis
S = 5.814E-8
b = 100. ft

Combined Water Level Data From All Monitor Wells
Partially-penetrating, Unconfined Aquifer



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Martford

WELL TEST ANALYSIS

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1401
Location: Panola County
Test Well: Alexander FP
Test Date: 02/12/14

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
Alexander #1	0	0
Alexander #2	1379.32	-302.61

Observation Wells

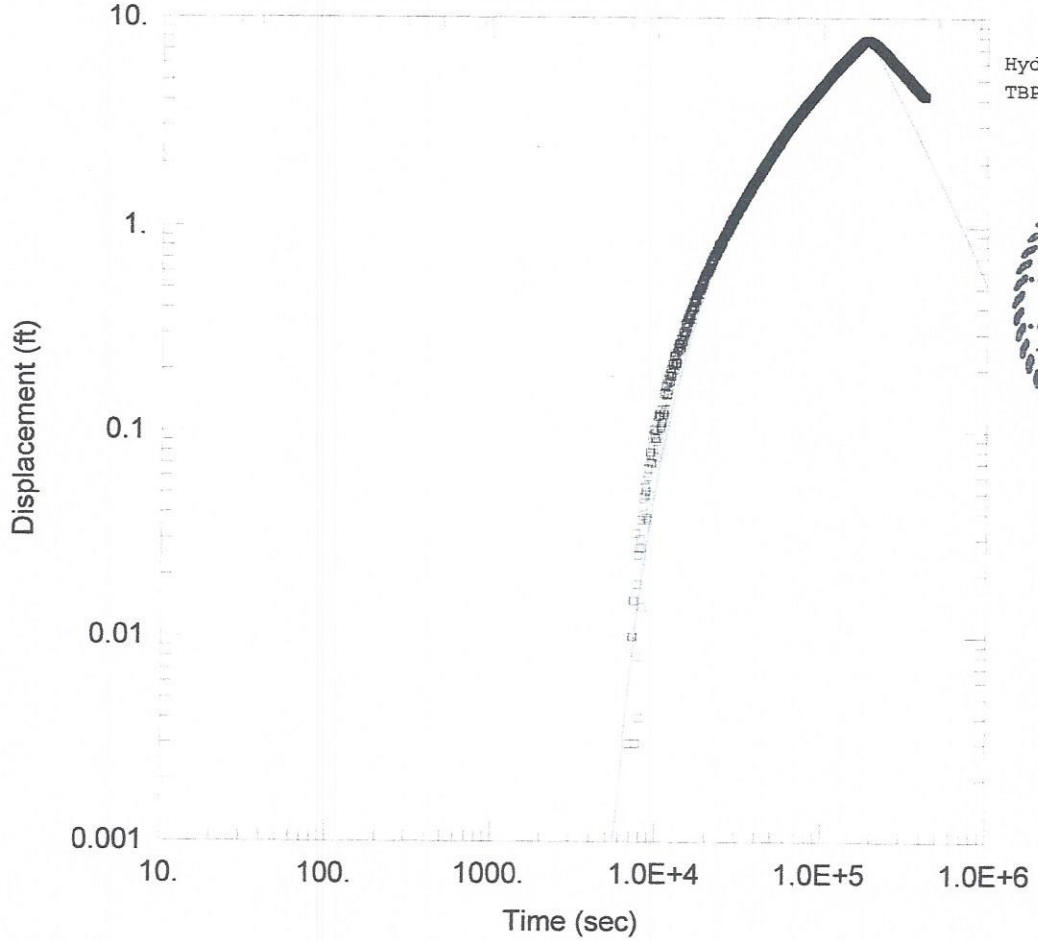
Well Name	X (ft)	Y (ft)
CGU 30-09	-264.55	-901.99
CGU 30-12	-100.38	1629.52
CGU 31-12	2998.35	692.74

SOLUTION

Aquifer Model: Unconfined
Solution Method: Neuman

T = 2459.7 gal/day/ft
Sy = 0.1
S = 0.0001817
Kz/Kr = 0.009322

Water Level Data From CGU 31-12 Only
Partially-penetrating, Unconfined Aquifer



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WELL TEST ANALYSIS

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1401
Location: Panola County
Test Well: Alexander FP
Test Date: 02/12/14

AQUIFER DATA

Saturated Thickness: 287. ft

WELL DATA

Pumping Wells		
Well Name	X (ft)	Y (ft)
Alexander #1	0	0
Alexander #2	1379.32	-302.61

Observation Wells		
Well Name	X (ft)	Y (ft)
CGU 31-12	2998.35	692.74

SOLUTION

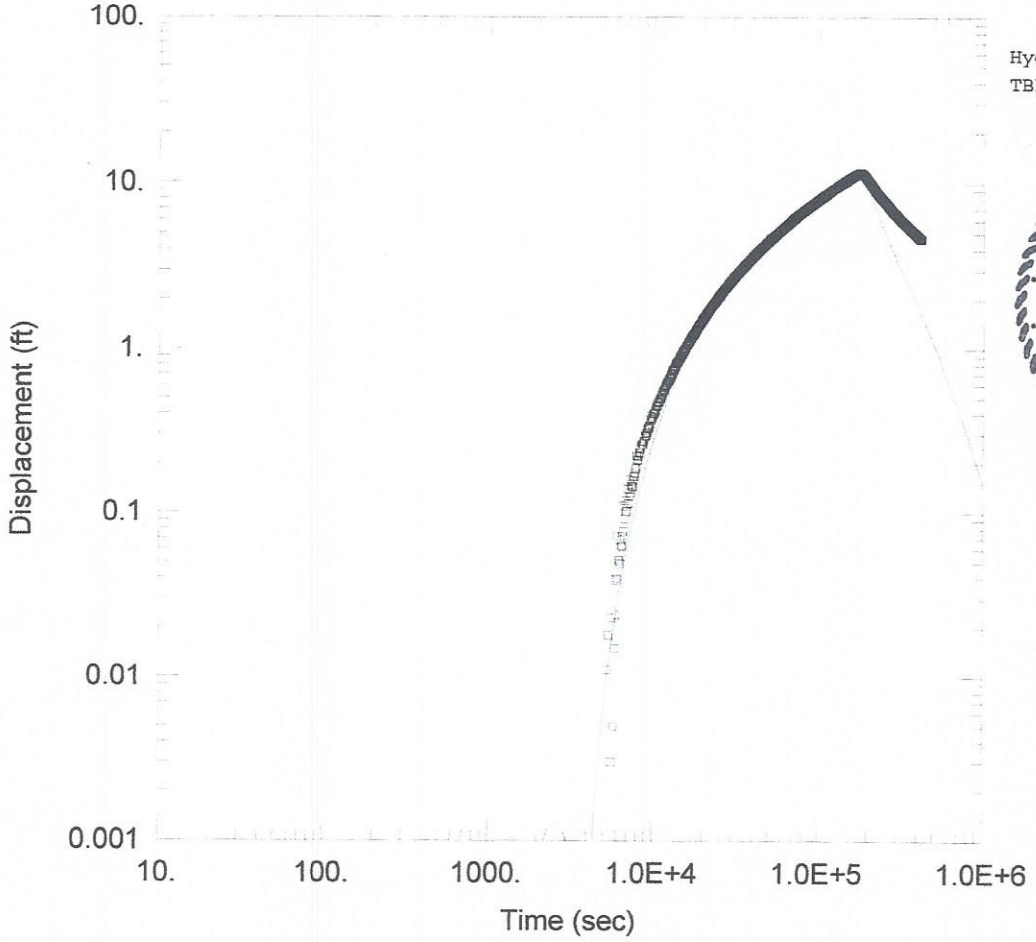
Aquifer Model: Unconfined

T = 7391.5 gal/day/ft
Sy = 0.1

Solution Method: Neuman

S = 0.000337
ß = 0.1

Water Level Data From CGU 30-12 Only
Partially-penetrating, Unconfined Aquifer



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WELL TEST ANALYSIS

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1401
Location: Panola County
Test Well: Alexander FP
Test Date: 02/12/14

AQUIFER DATA

Saturated Thickness: 287. ft

WELL DATA

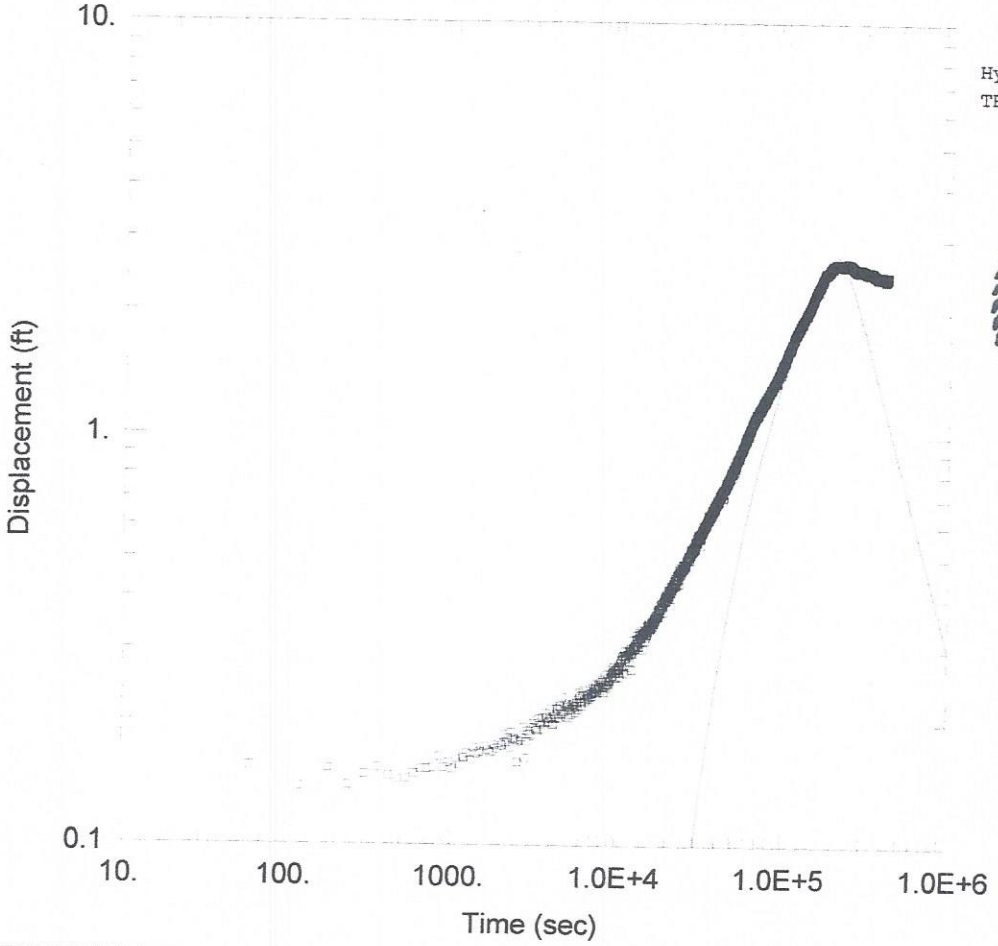
Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Alexander #1	0	0	CGU 30-12	-100.38	1629.52
Alexander #2	1379.32	-302.61			

SOLUTION

Aquifer Model: Unconfined
T = 4334.5 gal/day/ft
Sy = 0.1

Solution Method: Neuman
S = 0.0002329
ß = 0.1

Water Level Data From CGU 30-09 Only
Partially-penetrating, Unconfined Aquifer



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WELL TEST ANALYSIS

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1401
Location: Panola County
Test Well: Alexander FP
Test Date: 02/12/14

AQUIFER DATA

Saturated Thickness: 287. ft

WELL DATA

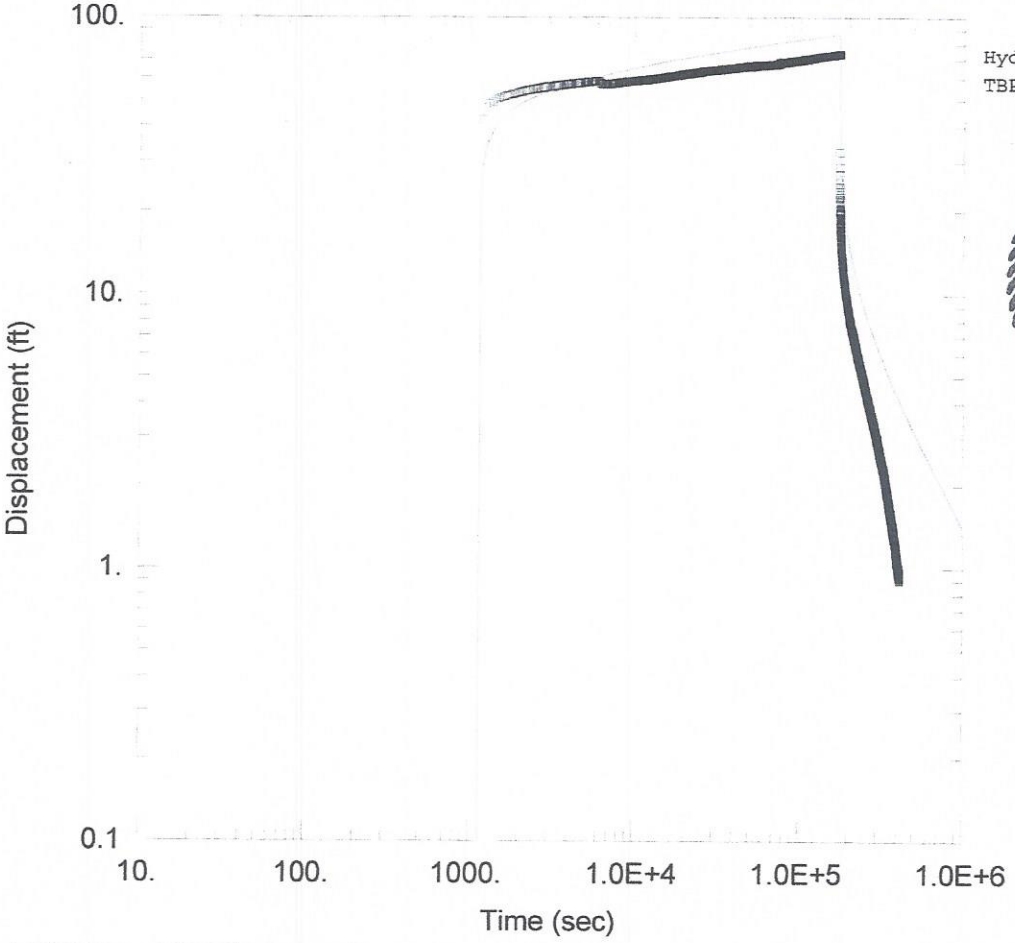
Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Alexander #1	0	0	CGU 30-09	-264.55	-901.99
Alexander #2	1379.32	-302.61			

SOLUTION

Aquifer Model: Unconfined
T = 5935.9 gal/day/ft
Sy = 0.1

Solution Method: Neuman
S = 0.003167
ß = 0.1

Pumping And Recovery Data From Alexander #2
Partially-penetrating, Unconfined Aquifer



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WELL TEST ANALYSIS

Data Set: Z:\...\Alex_2_unconfined.aqt
Date: 02/21/14 Time: 11:55:17

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1401
Location: Panola County
Test Well: Alexander FP
Test Date: 02/12/14

AQUIFER DATA

Saturated Thickness: 287. ft

WELL DATA

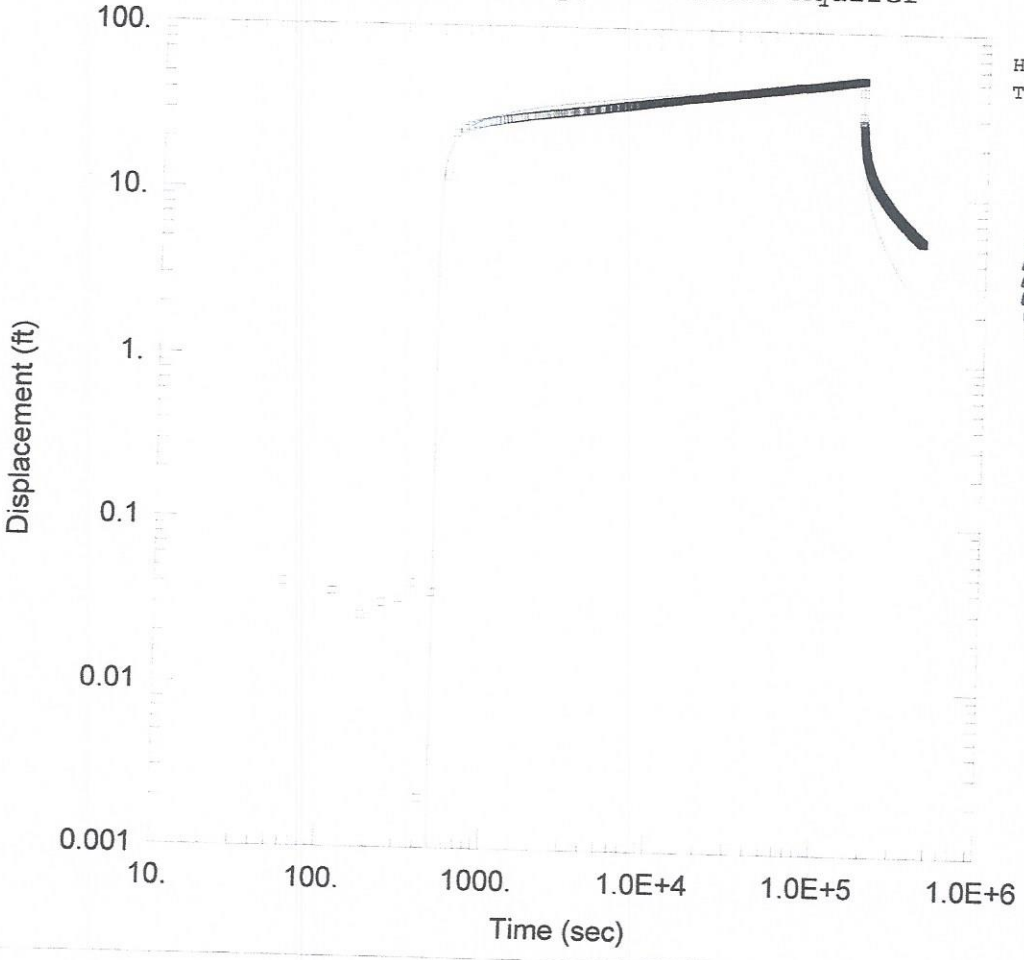
Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Alexander #2	0	0	Alexander #2	0	0

SOLUTION

Aquifer Model: Unconfined
Solution Method: Neuman

T = 2773.6 gal/day/ft
S = 0.0002276
Sy = 0.1
ß = 0.1

Pumping And Recovery Data From Alexander #1
Partially-penetrating,Unconfined Aquifer



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WELL TEST ANALYSIS

Data Set: Z:\...\Alex_1_unconfined.aqt
Date: 02/21/14 Time: 11:53:19

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1401
Location: Panola County
Test Well: Alexander FP
Test Date: 02/12/14

AQUIFER DATA

Saturated Thickness: 184. ft

WELL DATA

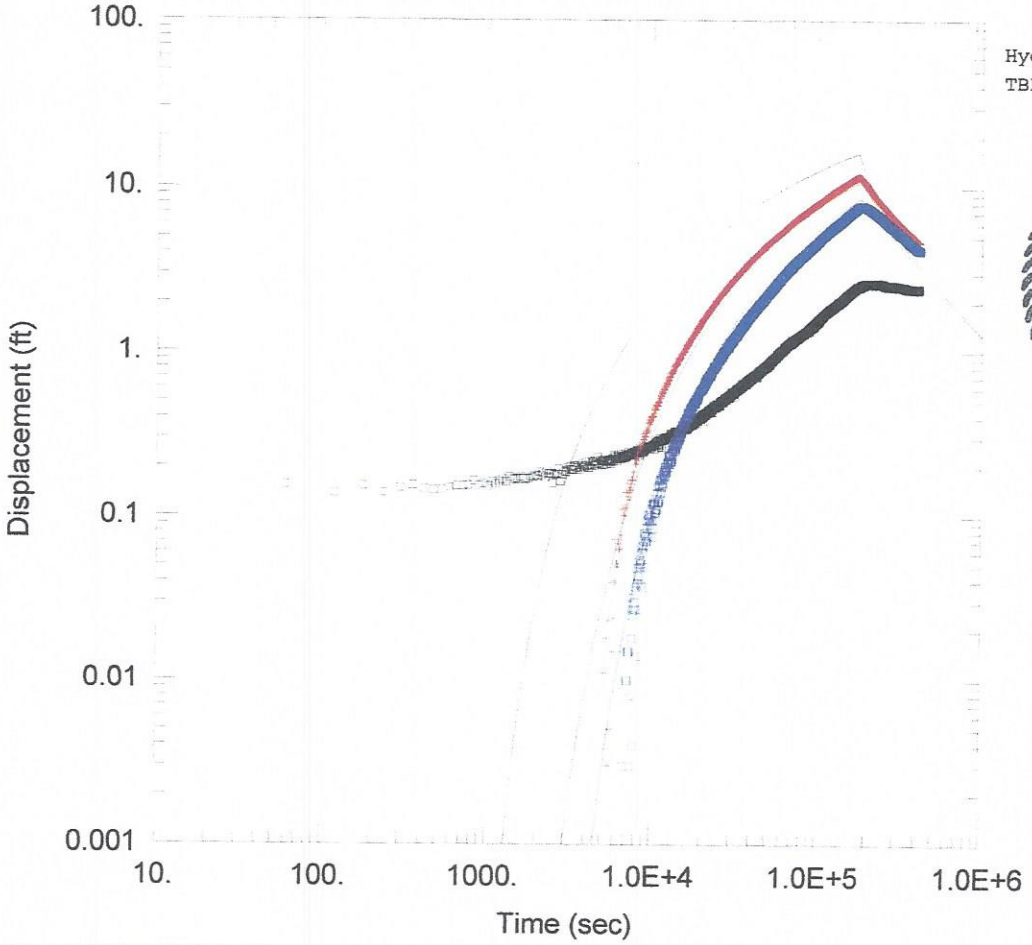
Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Alexander #1	0	0	Alexander #1	0	0

SOLUTION

Aquifer Model: Unconfined
Solution Method: Neuman

T = 5335.2 gal/day/ft
Sy = 0.1
S = 0.341
ß = 0.001

Combined Water Level Data From All Monitor Wells
Partially-penetrating, Confined Aquifer



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WELL TEST ANALYSIS

Data Set: Z:\...\Alex FP_confined.aqt
Date: 02/21/14 Time: 14:36:18

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1401
Location: Panola County
Test Well: Alexander FP
Test Date: 02/12/14

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
Alexander #1	0	0
Alexander #2	1379.32	-302.61

Observation Wells

Well Name	X (ft)	Y (ft)
CGU 30-09	-264.55	-901.99
CGU 30-12	-100.38	1629.52
CGU 31-12	2998.35	692.74

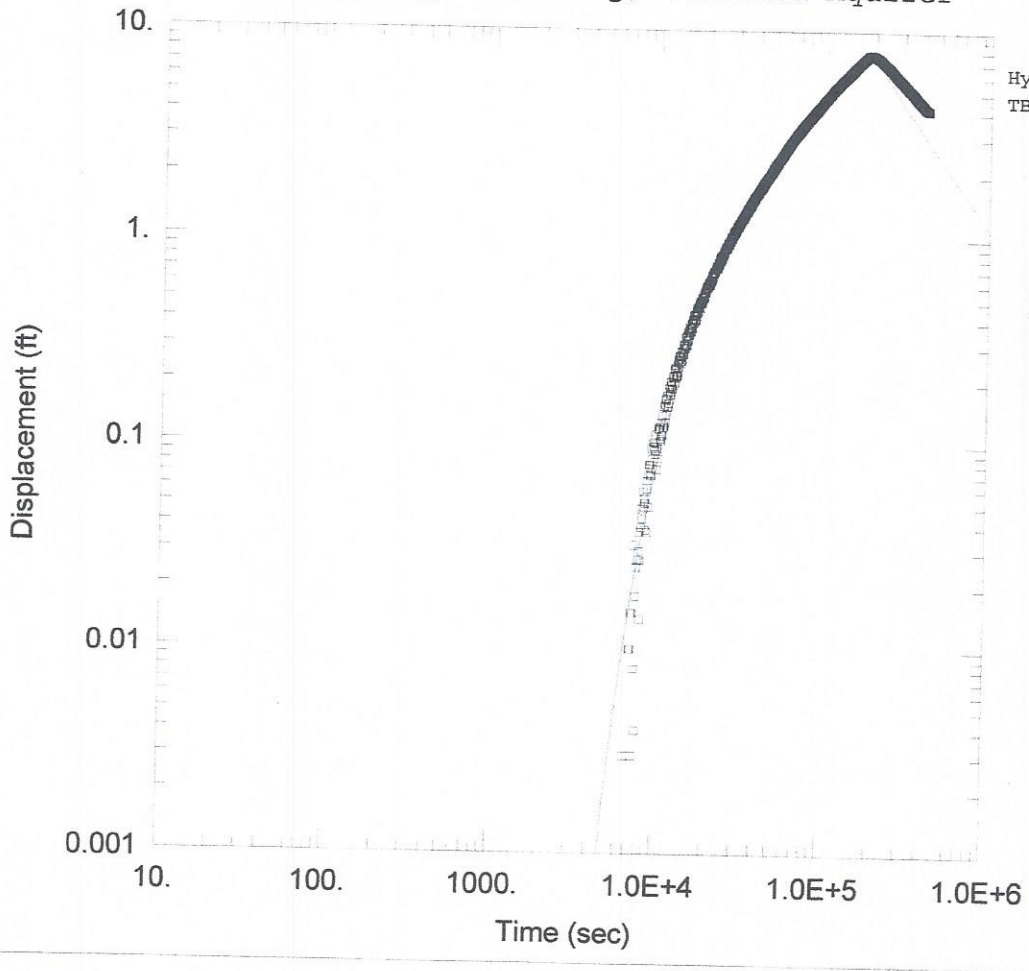
SOLUTION

Aquifer Model: Confined
Solution Method: Theis

T = 6209.4 gal/day/ft
Kz/Kr = 1.

S = 0.000222
b = 287. ft

Water Level Data From CGU 31-12 Only
Partially-penetrating, Confined Aquifer



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WELL TEST ANALYSIS

Data Set: Z:\...\31-12 only_confined.aqt
Date: 02/21/14 Time: 14:29:40

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1401
Location: Panola County
Test Well: Alexander FP
Test Date: 02/12/14

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
Alexander #1	0	0
Alexander #2	1379.32	-302.61

Observation Wells

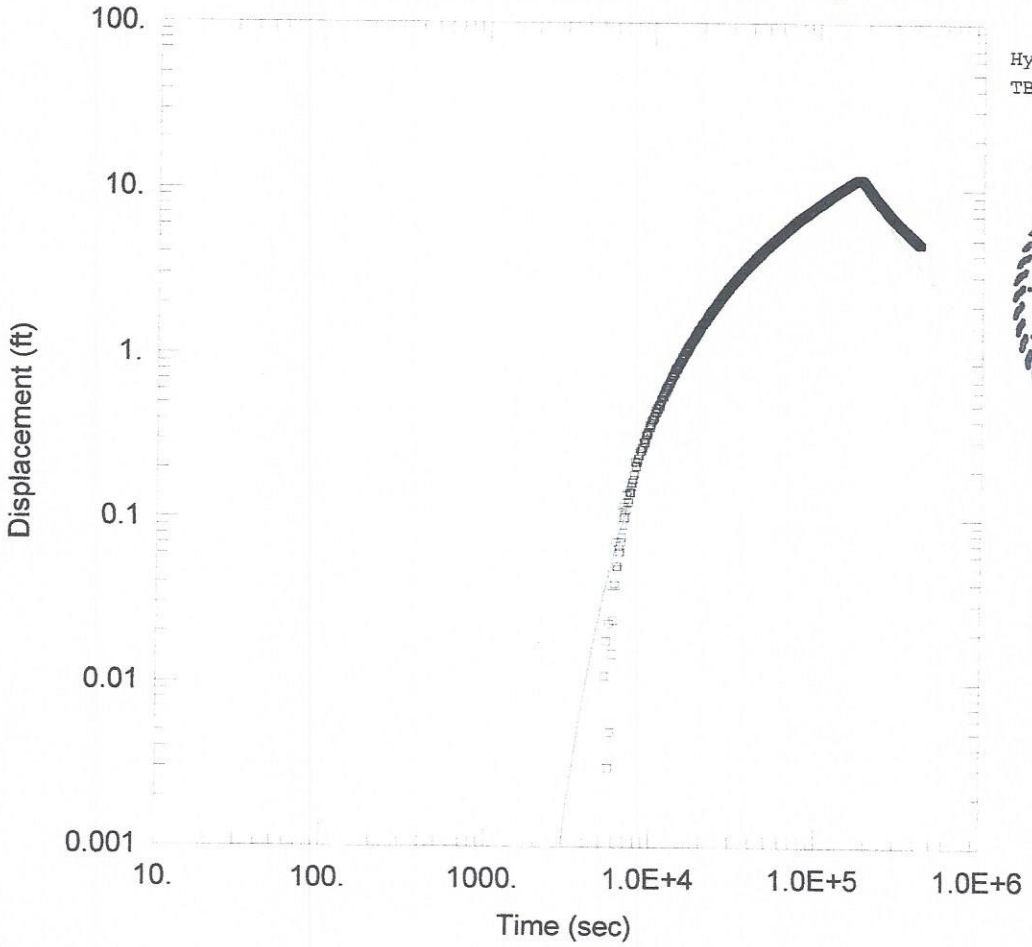
Well Name	X (ft)	Y (ft)
CGU 31-12	2998.35	692.74

SOLUTION

Aquifer Model: Confined
Solution Method: Theis

T = 6687.4 gal/day/ft
S = 0.0002559
Kz/Kr = 1.
b = 287. ft

Water Level Data From CGU 30-12 Only
Partially-penetrating, Confined Aquifer



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WELL TEST ANALYSIS

Data Set: Z:\...\30-12 only_confined.aqt
Date: 02/21/14 Time: 14:27:36

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1401
Location: Panola County
Test Well: Alexander FP
Test Date: 02/12/14

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
Alexander #1	0	0
Alexander #2	1379.32	-302.61

Observation Wells

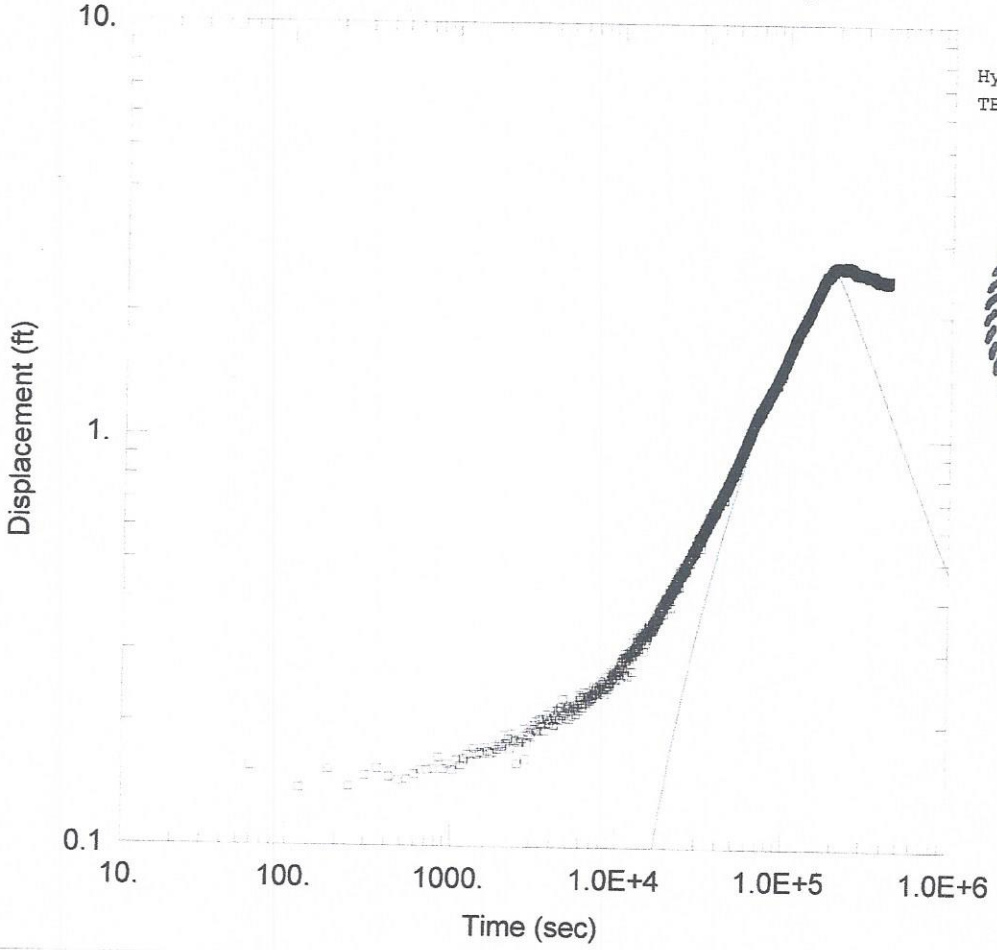
Well Name	X (ft)	Y (ft)
CGU 30-12	-100.38	1629.52

SOLUTION

Aquifer Model: Confined
Solution Method: Theis

T = 6153.4 gal/day/ft
Kz/Kr = 1.
S = 0.000216
b = 287. ft

Water Level Data From CGU 30-09 Only
Partially-penetrating, Confined Aquifer



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WELL TEST ANALYSIS

Data Set: Z:\...\30_09 only_confined.aqt
Date: 02/21/14 Time: 13:11:30

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1401
Location: Panola County
Test Well: Alexander FP
Test Date: 02/12/14

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
Alexander #1	0	0
Alexander #2	1379.32	-302.61

Observation Wells

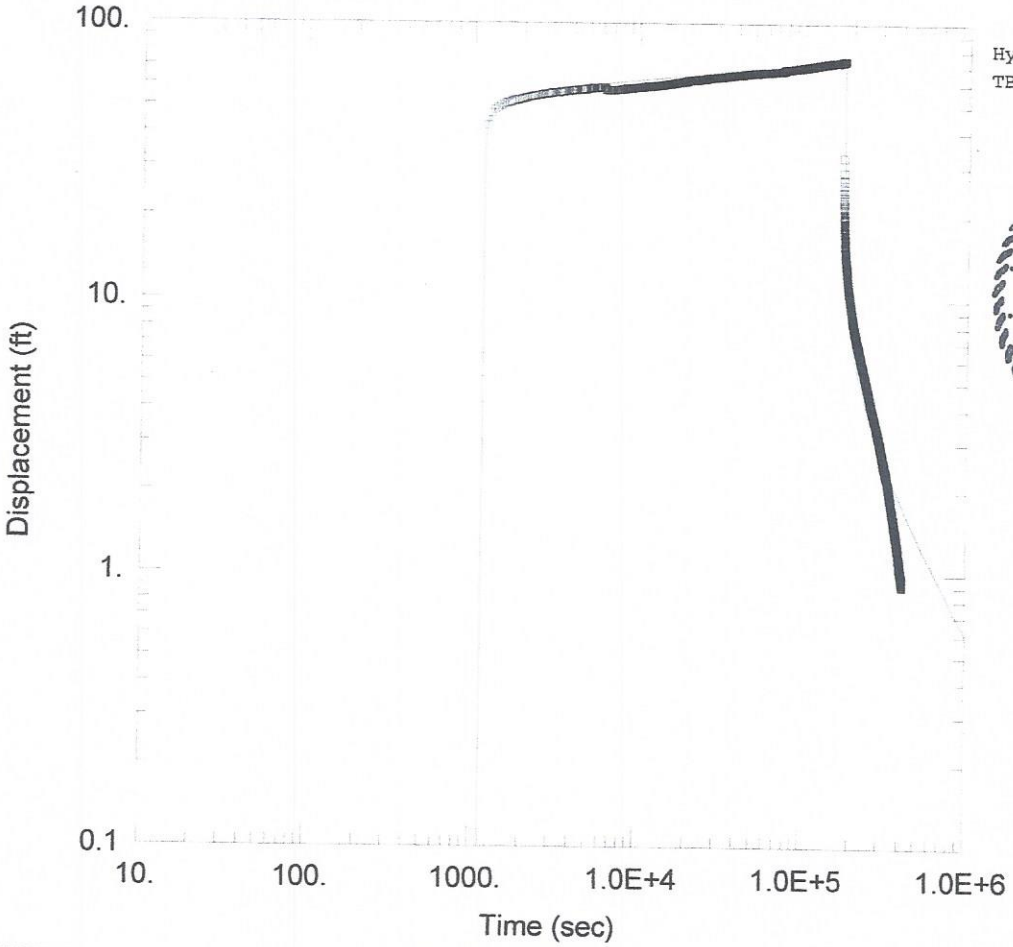
Well Name	X (ft)	Y (ft)
CGU 30-09	-264.55	-901.99

SOLUTION

Aquifer Model: Confined
Solution Method: Theis

T = 1.568E+4 gal/day/ft
Kz/Kr = 1.
S = 0.003073
b = 287. ft

Pumping And Recovery Data From Alexander #2
Partially-penetrating, Confined Aquifer



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WELL TEST ANALYSIS

Data Set: Z:\...\Alex_2_confined.aqt
Date: 02/21/14 Time: 11:54:18

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1401
Location: Panola County
Test Well: Alexander FP
Test Date: 02/12/14

WELL DATA

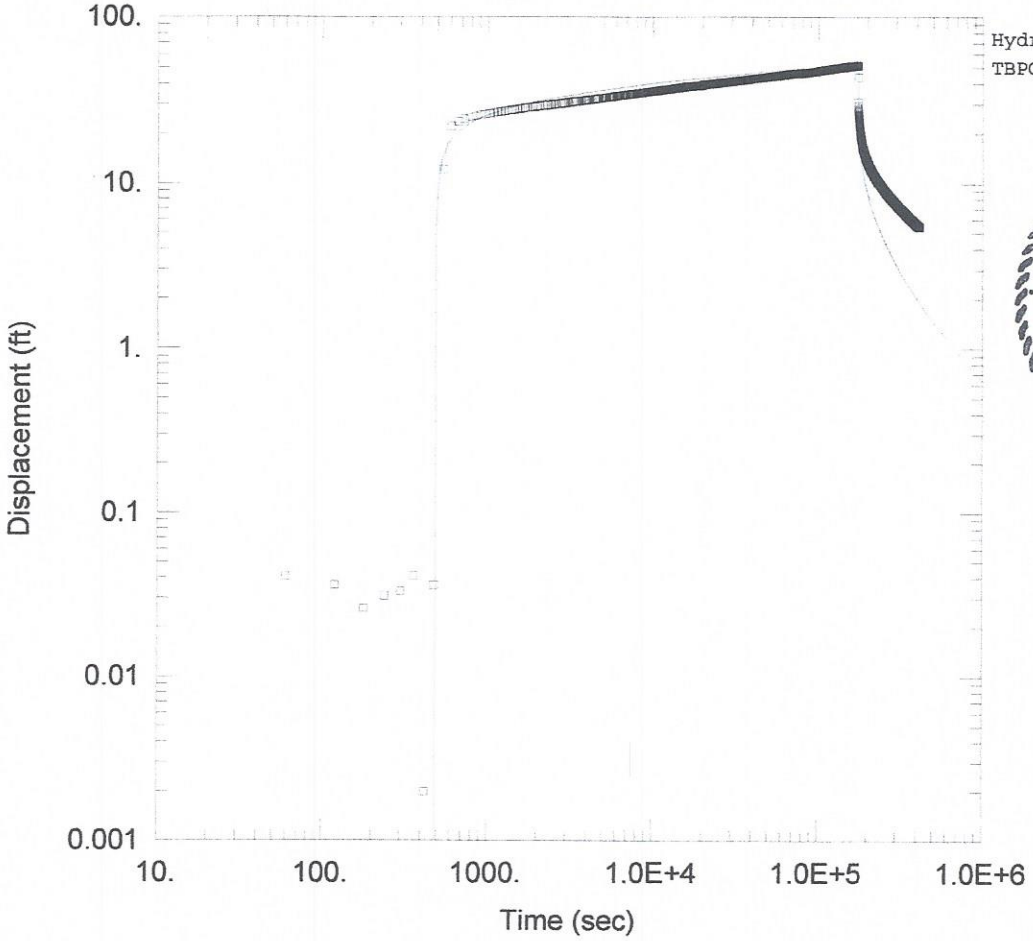
Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Alexander #2	0	0	Alexander #2	0	0

SOLUTION

Aquifer Model: Confined
Solution Method: Theis

T = 6430.7 gal/day/ft
Kz/Kr = 1.
S = 0.001147
b = 287. ft

Pumping And Recovery Data From Alexander #1
Partially-penetrating, Confined Aquifer



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WELL TEST ANALYSIS

Data Set: Z:\...\Alex_1_confined.aqt
Date: 02/21/14 Time: 11:51:10

PROJECT INFORMATION

Company: Hydrex
Client: Anadarko
Project: APC 1401
Location: Panola County
Test Well: Alexander FP
Test Date: 02/12/14

WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Alexander #1	0	0	Alexander #1	0	0

SOLUTION

Aquifer Model: Confined
Solution Method: Theis

T = 6356.8 gal/day/ft
S = 0.4064
Kz/Kr = 1.
b = 184. ft

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APPENDIX C

Hydraulic Conductivity Values Derived from Fryar et al. 2003

Number	BEG Label	GAM Easting (ft)	GAM Northing (ft)	Estimated Hydraulic Conductivity (ft/d)	GAM Layer
1	beg2124	6650787	20070618	2.05	6
2	beg2161	6690118	20057425	2.09	6
3	beg2211	6652324	20040279	1.09	6
4	beg2212	6652324	20040279	2.33	6
5	beg2227	6665184	20040933	1.6	6
6	beg2228	6665184	20040933	1.77	6
7	beg2231	6665184	20040933	2.08	6
8	beg2235	6678044	20041592	2.14	6
9	beg2257	6678824	20026423	3.5	6
10	beg2258	6691690	20027087	2.53	6
11	beg2259	6691690	20027087	2.53	6
12	beg2260	6691690	20027087	5.63	6
13	beg2277	6692475	20011918	10.55	6
14	beg2288	6705346	20012588	7.76	6
15	beg7815	6650064	20061153	23.87	6
16	beg0210	6611407	20111428	15.5	5
17	beg1994	6596406	20128734	4.86	5
18	beg1995	6609233	20129368	30.62	5
19	beg1998	6597152	20113564	3.28	5
20	beg1999	6597152	20113564	8.26	5
21	beg2000	6609985	20114197	1.07	5
22	beg2001	6609985	20114197	0.76	5
23	beg2002	6609985	20114197	1.07	5
24	beg2003	6609985	20114197	1.34	5
25	beg2004	6609985	20114197	1.63	5
26	beg2005	6609985	20114197	4.86	5
27	beg2007	6597898	20098393	13.94	5
28	beg2008	6634886	20130648	1.82	5
29	beg2009	6622817	20114836	6.21	5
30	beg2010	6622817	20114836	4.81	5
31	beg2011	6622817	20114836	10.79	5
32	beg2012	6635649	20115479	1.88	5
33	beg2013	6635649	20115479	5.65	5
34	beg2014	6635649	20115479	2.88	5
35	beg2015	6648481	20116127	8.94	5
36	beg2016	6623574	20099666	18.29	5
37	beg2017	6636412	20100309	1.32	5
38	beg2018	6636412	20100309	1.56	5
39	beg2019	6636412	20100309	1.99	5
40	beg2020	6636412	20100309	2.33	5
41	beg2021	6636412	20100309	2.69	5
42	beg2022	6649250	20100957	5.5	5
43	beg2023	6661313	20116779	0.79	5

Number	BEG Label	GAM Easting (ft)	GAM Northing (ft)	Estimated Hydraulic Conductivity (ft/d)	GAM Layer
44	beg2024	6661313	20116779	12.94	5
45	beg2025	6674144	20117437	112.84	5
46	beg2026	6686975	20118099	2.35	5
47	beg2028	6662087	20101610	2.41	5
48	beg2029	6662087	20101610	2.63	5
49	beg2030	6662087	20101610	2.61	5
50	beg2031	6662087	20101610	2.78	5
51	beg2032	6674924	20102268	8.55	5
52	beg2033	6687761	20102931	6.5	5
53	beg2034	6711840	20134607	17.59	5
54	beg2035	6724664	20135283	23.44	5
55	beg2036	6699806	20118767	19.08	5
56	beg2037	6712637	20119439	2.52	5
57	beg2038	6725467	20120116	4.44	5
58	beg2039	6725467	20120116	38.16	5
59	beg2040	6700598	20103598	1.44	5
60	beg2041	6700598	20103598	2.41	5
61	beg2042	6713434	20104271	8.9	5
62	beg2043	6713434	20104271	7.01	5
63	beg2044	6713434	20104271	2.12	5
64	beg2045	6737489	20135965	1.69	5
65	beg2046	6737489	20135965	3.4	5
66	beg2047	6737489	20135965	4.77	5
67	beg2048	6737489	20135965	8.78	5
68	beg2049	6737489	20135965	8.78	5
69	beg2050	6750313	20136651	3.79	5
70	beg2051	6750313	20136651	4.21	5
71	beg2052	6750313	20136651	24.78	5
72	beg2053	6738297	20120797	0.61	5
73	beg2054	6738297	20120797	1.15	5
74	beg2055	6751127	20121484	24.78	5
75	beg2056	6751941	20106317	0.67	5
76	beg2083	6598644	20083223	1.95	5
77	beg2084	6598644	20083223	5.32	5
78	beg2085	6598644	20083223	16.56	5
79	beg2086	6611488	20083857	1.93	5
80	beg2088	6599389	20068052	1.33	5
81	beg2089	6612239	20068687	4.06	5
82	beg2091	6612239	20068687	11.82	5
83	beg2094	6612991	20053516	2.46	5
84	beg2095	6624331	20084496	12.88	5
85	beg2096	6637175	20085140	1.33	5
86	beg2097	6637175	20085140	2.19	5

Number	BEG Label	GAM Easting (ft)	GAM Northing (ft)	Estimated Hydraulic Conductivity (ft/d)	GAM Layer
87	beg2098	6637175	20085140	1.65	5
88	beg2099	6637175	20085140	1.84	5
89	beg2100	6637175	20085140	4.96	5
90	beg2102	6650018	20085788	2.35	5
91	beg2103	6650018	20085788	2.67	5
92	beg2105	6650018	20085788	2.12	5
93	beg2106	6650018	20085788	3.84	5
94	beg2107	6650018	20085788	2.56	5
95	beg2108	6650018	20085788	4.04	5
96	beg2109	6625089	20069326	1.51	5
97	beg2110	6625089	20069326	2.86	5
98	beg2111	6625089	20069326	3.64	5
99	beg2112	6625089	20069326	4.05	5
100	beg2113	6625089	20069326	3.02	5
101	beg2114	6625089	20069326	4.87	5
102	beg2115	6625089	20069326	3.21	5
103	beg2116	6625089	20069326	3.21	5
104	beg2117	6625089	20069326	3.53	5
105	beg2118	6625089	20069326	3.82	5
106	beg2119	6625089	20069326	4.47	5
107	beg2120	6625089	20069326	24.78	5
108	beg2121	6637938	20069970	1.5	5
109	beg2122	6637938	20069970	1.7	5
110	beg2123	6637938	20069970	3.25	5
111	beg2125	6650787	20070618	4.33	5
112	beg2126	6650787	20070618	2.12	5
113	beg2127	6650787	20070618	3.08	5
114	beg2128	6625846	20054155	5.08	5
115	beg2129	6638701	20054800	2.64	5
116	beg2130	6638701	20054800	3.52	5
117	beg2131	6638701	20054800	4.73	5
118	beg2132	6638701	20054800	13.04	5
119	beg2133	6651556	20055449	8.25	5
120	beg2134	6662861	20086441	1.41	5
121	beg2135	6662861	20086441	0.89	5
122	beg2136	6662861	20086441	3.54	5
123	beg2137	6662861	20086441	2.56	5
124	beg2138	6675704	20087100	2.57	5
125	beg2139	6675704	20087100	3.61	5
126	beg2140	6688547	20087763	9.01	5
127	beg2141	6663636	20071272	4.7	5
128	beg2142	6663636	20071272	6.84	5
129	beg2143	6663636	20071272	4.22	5

Number	BEG Label	GAM Easting (ft)	GAM Northing (ft)	Estimated Hydraulic Conductivity (ft/d)	GAM Layer
130	beg2144	6663636	20071272	4.43	5
131	beg2145	6676484	20071930	16.53	5
132	beg2146	6676484	20071930	2.24	5
133	beg2147	6676484	20071930	671.25	5
134	beg2148	6689333	20072594	5.91	5
135	beg2149	6664410	20056103	1.84	5
136	beg2150	6664410	20056103	4.63	5
137	beg2151	6664410	20056103	4.92	5
138	beg2152	6664410	20056103	10.25	5
139	beg2153	6664410	20056103	23.65	5
140	beg2154	6664410	20056103	4.56	5
141	beg2155	6664410	20056103	7.17	5
142	beg2156	6664410	20056103	11.88	5
143	beg2157	6677264	20056761	9.4	5
144	beg2158	6677264	20056761	13.33	5
145	beg2159	6677264	20056761	4.9	5
146	beg2160	6690118	20057425	1.95	5
147	beg2162	6690118	20057425	2.67	5
148	beg2163	6690118	20057425	2.12	5
149	beg2164	6690118	20057425	2.33	5
150	beg2165	6690118	20057425	3.03	5
151	beg2166	6690118	20057425	3.03	5
152	beg2167	6690118	20057425	4.14	5
153	beg2168	6690118	20057425	5.04	5
154	beg2169	6690118	20057425	10.88	5
155	beg2170	6701389	20088430	16.56	5
156	beg2171	6701389	20088430	31.39	5
157	beg2172	6714231	20089103	13.22	5
158	beg2173	6727073	20089780	7.76	5
159	beg2174	6702180	20073262	2.46	5
160	beg2175	6715028	20073935	1.44	5
161	beg2176	6727876	20074613	2.68	5
162	beg2177	6702972	20058093	2.51	5
163	beg2179	6728679	20059445	0.63	5
164	beg2180	6728679	20059445	13.35	5
165	beg2182	6741531	20060127	3.52	5
166	beg2184	6754384	20060815	1.61	5
167	beg2205	6601627	20022540	1.31	5
168	beg2206	6614494	20023175	5.12	5
169	beg2207	6602373	20007369	43.35	5
170	beg2208	6615245	20008005	51.73	5
171	beg2209	6626603	20038986	1.65	5
172	beg2210	6639464	20039630	2.29	5

Number	BEG Label	GAM Easting (ft)	GAM Northing (ft)	Estimated Hydraulic Conductivity (ft/d)	GAM Layer
173	beg2213	6652324	20040279	2.88	5
174	beg2214	6652324	20040279	7.02	5
175	beg2215	6652324	20040279	8.78	5
176	beg2216	6652324	20040279	117.46	5
177	beg2217	6627360	20023815	6.29	5
178	beg2218	6640227	20024460	1.7	5
179	beg2219	6640227	20024460	2.31	5
180	beg2220	6653093	20025110	3.29	5
181	beg2221	6628117	20008645	29.71	5
182	beg2222	6640990	20009290	15.01	5
183	beg2223	6653861	20009940	2.81	5
184	beg2224	6665184	20040933	1.92	5
185	beg2225	6665184	20040933	0.96	5
186	beg2226	6665184	20040933	1.58	5
187	beg2230	6665184	20040933	2.77	5
188	beg2232	6665184	20040933	2.1	5
189	beg2233	6678044	20041592	0.95	5
190	beg2236	6678044	20041592	3.37	5
191	beg2237	6678044	20041592	2.36	5
192	beg2239	6678044	20041592	2.71	5
193	beg2240	6678044	20041592	7.79	5
194	beg2241	6690904	20042256	1.95	5
195	beg2242	6690904	20042256	2.43	5
196	beg2243	6690904	20042256	1.9	5
197	beg2244	6690904	20042256	4.3	5
198	beg2245	6690904	20042256	2.35	5
199	beg2246	6690904	20042256	3.31	5
200	beg2247	6690904	20042256	14.78	5
201	beg2248	6690904	20042256	3.62	5
202	beg2249	6665959	20025764	1.27	5
203	beg2250	6665959	20025764	2.87	5
204	beg2251	6665959	20025764	1.96	5
205	beg2252	6665959	20025764	2.26	5
206	beg2253	6665959	20025764	2.45	5
207	beg2254	6665959	20025764	3.4	5
208	beg2255	6665959	20025764	4.53	5
209	beg2256	6678824	20026423	1.4	5
210	beg2261	6691690	20027087	3.57	5
211	beg2262	6666733	20010594	3.08	5
212	beg2263	6666733	20010594	0.66	5
213	beg2264	6666733	20010594	0.66	5
214	beg2265	6666733	20010594	1.43	5
215	beg2266	6666733	20010594	2.19	5

Number	BEG Label	GAM Easting (ft)	GAM Northing (ft)	Estimated Hydraulic Conductivity (ft/d)	GAM Layer
216	beg2267	6666733	20010594	2.59	5
217	beg2268	6666733	20010594	2.67	5
218	beg2269	6666733	20010594	1.96	5
219	beg2270	6666733	20010594	6.82	5
220	beg2271	6679604	20011254	1.86	5
221	beg2272	6679604	20011254	1.51	5
222	beg2273	6679604	20011254	2.56	5
223	beg2274	6679604	20011254	2.63	5
224	beg2275	6679604	20011254	2.8	5
225	beg2276	6692475	20011918	2.47	5
226	beg2278	6703763	20042925	2.56	5
227	beg2279	6716622	20043599	2.18	5
228	beg2280	6729481	20044277	6.62	5
229	beg2281	6704555	20027756	1.62	5
230	beg2282	6704555	20027756	1.16	5
231	beg2283	6717420	20028430	2.1	5
232	beg2284	6717420	20028430	2.9	5
233	beg2285	6705346	20012588	2.05	5
234	beg2286	6705346	20012588	3.03	5
235	beg2287	6705346	20012588	3.12	5
236	beg2289	6718217	20013262	0.55	5
237	beg2290	6718217	20013262	3.75	5
238	beg2291	6718217	20013262	14.98	5
239	beg2292	6742340	20044960	3.92	5
240	beg2293	6742340	20044960	4.72	5
241	beg2294	6742340	20044960	11.7	5
242	beg2295	6755198	20045648	1.93	5
243	beg2297	6756013	20030481	0.74	5
244	beg2298	6756013	20030481	4.54	5
245	beg2299	6756013	20030481	8.78	5
246	beg2300	6743957	20014624	17.71	5
247	beg2301	6756827	20015313	6.66	5
248	beg2406	6628875	19993475	2.69	5
249	beg2418	6706137	19997419	0.92	5
250	beg7744	6594022	20114424	3.54	5
251	beg7745	6612435	20114927	9.91	5
252	beg7747	6615827	20110534	10.79	5
253	beg7748	6594537	20095187	24.33	5
254	beg7749	6596014	20105296	1.29	5
255	beg7750	6598529	20101263	13.52	5
256	beg7751	6629208	20115662	11.18	5
257	beg7752	6622768	20102059	22.15	5
258	beg7753	6627314	20102083	16.1	5

Number	BEG Label	GAM Easting (ft)	GAM Northing (ft)	Estimated Hydraulic Conductivity (ft/d)	GAM Layer
259	beg7754	6622637	20106412	1.76	5
260	beg7755	6622723	20106416	0.57	5
261	beg7756	6626242	20102942	18.29	5
262	beg7757	6711919	20133090	20.08	5
263	beg7758	6712078	20128434	4.07	5
264	beg7759	6713505	20125771	1.21	5
265	beg7760	6719555	20124873	8.57	5
266	beg7761	6700567	20097614	2.32	5
267	beg7762	6748594	20141527	16.9	5
268	beg7763	6748819	20140525	20.98	5
269	beg7809	6616489	20083395	14.61	5
270	beg7810	6607865	20080737	8.85	5
271	beg7811	6600685	20060918	14.03	5
272	beg7812	6600792	20062241	4.35	5
273	beg7813	6596300	20068002	1.54	5
274	beg7814	6641525	20061836	6.92	5
275	beg7816	6650508	20060871	278.07	5
276	beg7817	6657212	20055736	16.1	5
277	beg7818	6659952	20071084	46.58	5
278	beg7819	6662461	20058944	30.02	5
279	beg7820	6663983	20059427	9.36	5
280	beg7821	6659993	20056790	19.89	5
281	beg7822	6670128	20055178	23.77	5
282	beg7823	6668879	20054405	23.38	5
283	beg7840	6633351	20039830	2.12	5
284	beg7841	6637256	20020255	1.63	5
285	beg7842	6638089	20019080	2.73	5
286	beg7845	6754746	20041263	0.43	5
287	beg7846	6746889	20032223	31.4	5
288	beg7858	6618063	19994559	4.69	5
289	beg7863	6668014	19993930	2.93	5
290	beg2090	6612239	20068687	2.65	4
291	beg2093	6600135	20052882	18.81	4
292	beg2398	6603118	19992199	11.51	4
293	beg2399	6615997	19992834	4.38	4

APPENDIX D

Hydraulic Conductivity Values Derived from Specific Capacity Measurements

Record ID	Tracking Number	Owner Name	Proposed Use	Lat (NAD83)	Long (NAD83)	Well Depth (ft)	Yield (gpm)	Drawdown (ft)	Well Test Duration (hours)	Specific Capacity (gpm/ft)	Specific Capacity (ft^2/day)	Estimated Transmissivity (ft^2/day)	Saturated Thickness (ft)	Estimated Hydraulic Conductivity (ft/day)
1	394538	Anadarko Petroluem	Rig Supply	32.143333	-94.475832	310	60	50	1	1.2	231	192	190	1.0
2	392629	Anadarko	Rig Supply	32.132221	-94.478332	340	60	50	1	1.2	231	192	100	1.9
3	390569	BP America	Rig Supply	32.137221	-94.41861	310	80	30	1	2.7	513	376	160	2.4
4	389250	Anadarko	Rig Supply	32.181943	-94.443055	310	80	25	1	3.2	616	439	100	4.4
5	388487	Adam Smith	Domestic	32.281388	-94.391666	360	30	50	2	0.6	116	108	80	1.3
6	386940	BP America	Hydraulic Fracturing Supply	32.119443	-94.415555	200	100	10	1	10.0	1,925	1,142	190	6.0
7	386939	BP America	Hydraulic Fracturing Supply	32.119443	-94.415555	200	100	10	1	10.0	1,925	1,142	190	6.0
8	386701	PetroQuest Energy ,LLC	Rig Supply	32.18361	-94.060833	200	80	10	1	8.0	1,540	947	100	9.5
9	386685	MEMORIAL RESOURCES DEVELOPMENT	Rig Supply	32.019166	-94.094166	350	82	30	2	2.7	526	384	100	3.8
10	386571	Colby McKnight	Domestic	32.227777	-94.4575	270	75	70	2	1.1	206	175	30	5.8
11	386299	Jerry Davis	Domestic	32.008611	-94.526666	281	16	87	4	0.2	35	40	73	0.5
12	386288	SJD Saltwater Disposal, LLC	Rig Supply	32.159722	-94.411111	320	75	1	1	75.0	14,439	6,207	100	62.1
13	385530	Anadarko	Rig Supply	32.109166	-94.415277	120	70	10	1	7.0	1,348	847	90	9.4
14	385138	Samson Lone Star	Rig Supply	32.043055	-94.22611	160	50	1	1	50.0	9,626	4,415	100	44.2
15	384958	Sabine Oil & Gas	Rig Supply	32.224999	-94.205833	260	30	100	1	0.3	58	60	200	0.3
16	383644	BP America	Hydraulic Fracturing Supply	32.129443	-94.413611	270	80	10	1	8.0	1,540	947	100	9.5
17	383576	BP America	Hydraulic Fracturing Supply	32.124443	-94.421666	540	100	50	1	2.0	385	296	420	0.7
18	383062	Willie Scott	Domestic	32.057222	-94.592499	254	75	100	2	0.8	144	130	24	5.4
19	382209	Robert Underwood	Domestic	32.19361	-94.281666	130	40	1	1	40.0	7,701	3,660	70	52.3
20	382144	Joel Mienert	Domestic	32.131666	-94.529166	387	85	100	4	0.9	164	144	30	4.8
21	381812	BP America	Hydraulic Fracturing Supply	32.123888	-94.418332	380	100	50	1	2.0	385	296	240	1.2
22	381720	Enbridge G&P East Texas LP	Industrial	32.226666	-94.475554	290	100	40	1	2.5	481	357	90	4.0
23	380815	Samson Lone Star	Hydraulic Fracturing Supply	32.072221	-94.344999	165	40	1	1	40.0	7,701	3,660	85	43.1
24	380807	Samson Lone Star	Hydraulic Fracturing Supply	32.072221	-94.344444	170	35	1	1	35.0	6,738	3,272	80	40.9
25	380149	Anadarko Petroleum	Rig Supply	32.087777	-94.277777	200	60	25	1	2.4	462	344	190	1.8
26	379685	PetroQuest Energy ,LLC	Rig Supply	32.148333	-94.068332	290	100	1	1	100.0	19,251	7,903	90	87.8
27	378620	Memorial Resource Development	Rig Supply	32.033333	-94.082499	200	70	10	1	7.0	1,348	847	190	4.5
28	378535	Valence Operating Co.	Rig Supply	32.06861	-94.458611	350	70	30	1	2.3	449	336	100	3.4
29	378018	Stephen Hammons	Domestic	32.249444	-94.453333	194	13	46	1	0.3	54	57	32	1.8
30	378007	Anadarko E&P Co.	Rig Supply	32.132221	-94.49111	320	60	40	1	1.5	289	232	190	1.2
31	377931	Mike Powell	Domestic	32.062777	-94.399721	235	15	85	1	0.2	34	38	25	1.5
32	377491	Anadarko	Rig Supply	32.182221	-94.448333	310	100	10	1	10.0	1,925	1,142	100	11.4
33	377106	Virgil Wedgeworth	Domestic	32.184166	-94.391944	203	16	52	2	0.3	59	61	28	2.2
34	377006	BP America	Rig Supply	32.134444	-94.417499	320	100	30	1	3.3	642	454	90	5.0
35	376568	Samson Lone Star	Rig Supply	32.059444	-94.147221	250	25	1	1	25.0	4,813	2,466	60	41.1
36	375905	Sophie Griffith	Domestic	32.003333	-94.537499	380	15	60	12	0.3	48	52	60	0.9
37	375904	Justin Crooms	Domestic	31.998055	-94.533333	360	12	60	3	0.2	39	43	56	0.8
38	375891	Charles Ford	Domestic	32.129166	-94.163055	130	7.6	20	3	0.4	73	73	84	0.9
39	373548	Samson Lone Star	Rig Supply	32.051111	-94.163888	145	75	1	1	75.0	14,439	6,207	80	77.6
40	371140	Anadarko E & P Co	Industrial	32.127499	-94.465277	420	60	40	1	1.5	289	232	100	2.3
41	371023	LARRY DYESS	Domestic	31.982777	-94.07861	199	5	100	1	0.1	10	13	44	0.3
42	371014	Anadarko	Rig Supply	32.147499	-94.472499	260	62	57	2	1.1	209	177	160	1.1
43	370731	BRUCE MAINES	Domestic	32.084166	-94.25	190	14	100	2	0.1	27	32	37	0.9
44	370726	MARK WEST ENERGY	Industrial	32.166666	-94.416666	346	50	60	2	0.8	160	142	27	5.2
45	370722	RUSSELL WATSON	Domestic	32.079166	-94.130832	199	35	40	2	0.9	168	148	39	3.8
46	370718	pIKE/NANCY HOOKER	Domestic	32.015277	-94.386388	73	15	20	2	0.8	144	130	31	4.2
47	370330	JARRETT FIELDS	Domestic	32.05	-94.399166	265	16	100	4	0.2	31	35	75	0.5
48	370290	Floyd Dryer	Domestic	32.253611	-94.428332	300	60	1	1	60.0	11,551	5,146	50	102.9
49	369669	XTO Energy	Rig Supply	32.319166	-94.255	320	20	150	4	0.1	26	30	80	0.4
50	368527	Ryan Bosworth	Domestic	32.111666	-94.489999	355	13	50	2	0.3	50	53	75	0.7
51	366101	Garrett, Barbara	Domestic	32.329999	-94.062777	151	12	80	1	0.2	29	34	25	1.3
52	364974	Valence Operating Company	Rig Supply	32.091666	-94.455833	340	80	20	1	4.0	770	529	200	2.6
53	363758	Keith Festervan	Domestic	32.223888	-94.046388	95	12	39	6	0.3	59	61	54	1.1
54	363471	Jack Harlin	Domestic	32.237221	-94.38611	147	55	40	1	1.4	265	216	27	8.0
55	363406	ANADARKO	Rig Supply	32.187499	-94.436388	330	62	52	1	1.2	230	191	100	1.9
56	361983	PetroQuest	Rig Supply	32.132221	-94.075277	240	100	10	1	10.0	1,925	1,142	200	5.7
57	360289	Samson Lone Star	Rig Supply	32.04861	-94.214722	200	65	1	1	65.0	12,513	5,504	100	55.0
58	359659	B.A MORRIS	Domestic	32.069721	-94.406944	251	10	154	12	0.1	13	17	48	0.3
59	358574	Lester Lewis	Domestic	32.288888	-94.427499	85	20	5	1	4.0	770	529	75	7.1
60	358216	PetroQuest	Rig Supply	32.132221	-94.054166	300	70	10	1	7.0	1,348	847	200	4.2
61	358016	Anadarko	Test Well	32.286944	-94.678888	290	80	70	1	1.1	220	185	110	1.7
62	358013	Anadarko	Test Well	32.298888	-94.671388	300	80	70	1	1.1	220	185	110	1.7
63	357137	PetroQuest	Rig Supply	32.117499	-94.067777	220	70	10	1	7.0	1,348	847	180	4.7
64	356968	Memorial Production Operating	Rig Supply	32.033333	-94.09611	200	75	1	1	75.0	14,439	6,207	100	62.1
65	356768	XTO Energy	Hydraulic Fracturing Supply	32.3125	-94.287499	160	100	10	1	10.0	1,925	1,142	100	11.4
66	355920	Don Vaughan	Stock	32.140555	-94.163333	218	15	74	2	0.2	39	43	26	1.7
67	355915	Larry Bullard	Stock	32.211666	-94.152222	270	42	58	1	0.7	139	126	110	1.1
68	355888	Don Vaughan	Stock	32.139721	-94.165555	272	28	86	2	0.3	63	64	34	1.9
69	355850	Tony Heard	Stock	32.268888	-94.325277	39	35	20	2	1.8	337	264	21	12.6
70	355849	Tony Heard	Stock	32.269443	-94.331388	40	35	20	2	1.8	337	264	21	12.6
71	355831	Richard Ballenger	Stock	32.239721	-94.379721	153	100	70	2	1.4	275	223	59	3.8
72	355777	XTO Energy	Rig Supply	32.356388	-94.449721	370	80	50	2	1.6	308	245	90	2.7
73	355428	Ralph Todd	Domestic	32.046666	-94.555277	253	17	30	2	0.6	109	102	28	3.7
74	355272	Memorial Production Operating	Hydraulic Fracturing Supply	32.020554	-94.360833	260	30	1	1	30.0	5,775	2,875	110	26.1
75	355187	Anadarko E & P	Industrial	32.176943	-94.451666	370	70	10	1	7.0	1,348	847	100	8.5
76	355176	Anadarko E&P Company	Industrial	32.172221	-94.379443	150	75	40	1	1.9	361	280	95	2.9
77	354684	Richard Hoell	Domestic	32.146666	-94.362222	203	100	80	2	1.3	241	199	27	7.4
78	354254	Ashley Morgan	Domestic	32.37361	-94.811388	265	50	50	2	1.0	193	165	25	6.6
79	354243	Mary Garrett	Domestic	32.193055	-94.492499	363	100	100	2	1.0	193	165	28	5.9
80	354228	Sharonda Jones	Domestic	32.168888	-94.506111	83	35	40	2	0.9	168	148	33	4.5
81	353994	Anadarko E&P	Industrial	32.136666	-94.479166	300	120	10	1	12.0	2,310	1,331	150	8.9
82	353987	Anadarko E&P Company	Industrial	32.135833	-94.474721	400	100	10	1	10.0	1,925	1,142	240	4.8
83	353811	Memorial Production Operating, LLC	Hydraulic Fracturing Supply	32.02111	-94.362777	280	35	1	1	35.0	6,738	3,272	100	32.7
84	353500	KEVIN WHITAKER	Domestic	31.982499	-94.128332	115	30	16	1	1.9	361	280	45	6.2
85	352079	BILLY ANDERSON	Stock	32.005555	-94.378332	370	50	90	4	0.6	107	101	127	0.8
86	352077	BILLY ANDERSON	Stock	32.005555	-94.377777	420	50	70	4	0.7	138	124	155	0.8
87	352001	Samson Lone Star	Rig Supply	32.053611	-94.176666	210	50	1	1	50.0	9,626	4,415	100	44.2
88	351659	MORGAN RABON	Irrigation	31.983888	-94.530277	333	96	160	4	0.6	116	108	121	0.9
89	351650	RUSSELL WHITAKER	Domestic	32.140833	-94.559722	333	12	22	4	0.5	105	99	108	0.9
90	351255	Anadarko E&P Company	Industrial	32.169443	-94.430554	360	100	10	1	10.0	1,925	1,142	100	11.4
91	351208	EOG Resources	Hydraulic Fracturing Supply	32.148888	-94.444721	340	60	1	1	60.0	11,551	5,146	100	51.5
92	351075	Anadarko E & P Company	Hydraulic Fracturing Supply	32.170277	-94.374721	250	150	10	1	15.0	2,888	1,606	200	8.0
93	351072	Anadarko	Hydraulic Fracturing Supply	32.171388	-94.372777	260	120	10	1	12.0	2,310	1,331	250	5.3
94	350845	Henry Spann	Domestic	32.019166	-94.18111	94	15	20	2	0.8	144	130	31	4.2
95	350220	Memorial Production Operating	Rig Supply	32.088888	-94.17611	340	80	1	1	80.0	15,401	6,552	100	65.5
96	350219	EOG Resources	Hydraulic Fracturing Supply	32.151388	-94.43861	360	60	1	1	60.0	11,551	5,146	160	32.2
97	349419	Petroquest	Rig Supply	32.125832	-94.084721	230	70	10	1	7.0	1,348	847	190	4.5
98	349264	R Lacy Service LTD	Rig Supply	32.269166	-94.324721	250	20	40	1	0.5	96	92	210	0.4
99	348761	EOG Resources	Hydraulic Fracturing Supply	32.147777	-94.444444	380	80	1	1	80.0	15,401	6,552	100	65.5
100	347060	Chevron	Rig Supply	32.203611	-94.415277	250	100	10	1	10.0	1,925	1,142	80	14.3
101	346983	Chevron	Rig Supply	32.24361	-94.403055	220	65	85	1	0.8	147	132	90	1.5

Record ID	Tracking Number	Owner Name	Proposed Use	Lat (NAD83)	Long (NAD83)	Well Depth (ft)	Yield (gpm)	Drawdown (ft)	Well Test Duration (hours)	Specific Capacity (gpm/ft)	Specific Capacity (ft^2/day)	Estimated Transmissivity (ft^2/day)	Saturated Thickness (ft)	Estimated Hydraulic Conductivity (ft/day)
102	346756	EOG Resources	Hydraulic Fracturing Supply	32.170277	-94.454722	320	65	1	1	65.0	12,513	5,504	100	55.0
103	346754	EOG Resources	Hydraulic Fracturing Supply	32.169443	-94.454444	320	65	1	1	65.0	12,513	5,504	100	55.0
104	346597	Anadarko E & P Company	Industrial	32.217777	-94.37861	200	140	10	1	14.0	2,695	1,515	160	9.5
105	346466	Anadarko	Industrial	32.214722	-94.378888	190	120	10	1	12.0	2,310	1,331	160	8.3
106	345891	Samson Lone Star	Rig Supply	32.079721	-94.158333	140	30	1	1	30.0	5,775	2,875	100	28.7
107	344900	Old Bethel Baptist	Domestic	32.106666	-94.508611	125	9	90	3	0.1	19	24	37	0.6
108	344878	Clint Cassell	Domestic	31.982499	-94.229721	177	50	50	1	1.0	193	165	20	8.3
109	344610	Gladys Baker	Stock	32.137499	-94.483888	60	6	20	12	0.3	58	60	14	4.3
110	344608	Robert Fugler	Domestic	32.054444	-94.436388	210	44	80	4	0.6	106	100	72	1.4
111	344607	Patti Landreneau	Domestic	32.103888	-94.103888	305	33	90	3	0.4	71	71	50	1.4
112	344512	Caldwell, Jerry	Domestic	31.975277	-94.353333	300	38	144	1	0.3	51	54	100	0.5
113	344298	VALENCE OPERATING	Rig Supply	32.098333	-94.436388	260	70	89	1	0.8	151	135	120	1.1
114	344294	VALENCE OPERATING	Hydraulic Fracturing Supply	32.09861	-94.447499	240	75	23	1	3.3	628	446	120	3.7
115	342741	LAVERN RHODES	Domestic	32.3025	-94.154722	100	60	10	1	6.0	1,155	744	50	14.9
116	342727	Robert Jones	Domestic	32.0625	-94.489721	215	20	20	2	1.0	193	165	20	8.3
117	342618	ANADARKO E & P COMPANY	Industrial	32.204444	-94.366388	200	80	10	1	8.0	1,540	947	90	10.5
118	341823	EOG Resources	Hydraulic Fracturing Supply	32.170277	-94.450833	330	75	1	1	75.0	14,439	6,207	100	62.1
119	341822	EOG Resources	Hydraulic Fracturing Supply	32.172221	-94.443333	340	70	1	1	70.0	13,476	5,857	100	58.6
120	341020	ANADARKO E & P COMPANY	Industrial	32.18361	-94.42611	310	65	20	1	3.3	626	444	180	2.5
121	340268	XTO ENERGY	Rig Supply	32.3	-94.266943	200	70	10	1	7.0	1,348	847	140	6.0
122	340259	ANADARKO E & P COMPANY	Industrial	32.214166	-94.378054	180	70	10	1	7.0	1,348	847	100	8.5
123	339914	Memorial Resource Development	Rig Supply	32.045555	-94.385555	220	55	1	1	55.0	10,588	4,783	110	43.5
124	337560	James Browning	Domestic	32.170277	-94.548055	420	33	240	12	0.1	26	31	115	0.3
125	336694	PIKE/NANCY HOOKER	Domestic	32.02611	-94.443055	220	30	70	2	0.4	83	81	28	2.9
126	336689	JEB JAMES	Domestic	32.034999	-94.183333	225	35	100	2	0.4	67	68	35	2.0
127	336678	JOHNNY KELLEY	Domestic	32.198333	-94.509444	213	60	50	2	1.2	231	192	33	5.8
128	335011	Billy Carter	Irrigation	32.192499	-94.4125	258	120	100	3	1.2	231	192	88	2.2
129	334611	LOYD WOOD	Domestic	32.006111	-94.48111	320	20	30	1	0.7	128	117	40	2.9
130	334582	LOYD WOOD	Domestic	32.007777	-94.480554	310	15	40	1	0.4	72	72	40	1.8
131	334403	Chevron Texaco	Rig Supply	32.256111	-94.43361	340	70	178	2	0.4	76	75	100	0.8
132	334394	C.T. Investors	Rig Supply	32.047777	-94.287221	120	10	58	2	0.2	33	38	40	0.9
133	334137	Henry Toomey	Domestic	32.017221	-94.18361	390	80	20	2	4.0	770	529	20	26.5
134	333895	David Musick	Domestic	32.011944	-94.325832	300	15	20	2	0.8	144	130	10	13.0
135	333013	Chesapeake Operating	Rig Supply	32.294721	-94.147777	120	70	71	2	1.0	190	163	60	2.7
136	332571	Ritter Construction	Irrigation	31.98361	-94.183333	260	80	10	1	8.0	1,540	947	180	5.3
137	332566	GENE POWELL INVESTMENTS	Rig Supply	32.195555	-94.564444	380	70	194	2	0.4	69	70	130	0.5
138	332490	CHEVRON TEXACO	Rig Supply	32.292777	-94.432499	280	70	105	2	0.7	128	117	100	1.2
139	332489	Johnny Woodfin	Stock	31.983054	-94.456388	250	35	80	4	0.4	84	82	77	1.1
140	332488	CHEVRON TEXACO	Rig Supply	32.269999	-94.445277	400	75	153	2	0.5	94	91	50	1.8
141	332473	CHESAPEAKE OPERATING	Rig Supply	32.160277	-94.316666	190	75	68	2	1.1	212	179	90	2.0
142	332471	CHESAPEAKE OPERATING	Rig Supply	32.297777	-94.156944	140	70	70	2	1.0	193	165	60	2.8
143	332467	CHESAPEAKE OPERATING	Rig Supply	32.164444	-94.310277	180	75	70	2	1.1	206	175	100	1.7
144	332461	CHESAPEAKE OPERATING	Rig Supply	32.295277	-94.150277	100	35	51	2	0.7	132	120	70	1.7
145	332452	CHESAPEAKE OPERATING	Rig Supply	32.136388	-94.352777	240	75	118	2	0.6	122	113	90	1.3
146	332405	MAXIMUS ENERGY	Rig Supply	31.988055	-94.069999	220	75	91	2	0.8	159	140	100	1.4
147	332393	MAXIMUS ENERGY	Rig Supply	31.98111	-94.066111	260	70	128	2	0.5	105	99	100	1.0
148	332384	DEVON ENERGY	Rig Supply	32.07611	-94.375277	280	55	173	2	0.3	61	63	80	0.8
149	332381	DEVON ENERGY	Rig Supply	32.061666	-94.412777	310	65	118	2	0.6	106	100	60	1.7
150	332373	DEVON ENERGY	Rig Supply	32.228332	-94.361388	200	70	144	2	0.5	94	90	70	1.3
151	332367	DEVON ENERGY	Rig Supply	32.2625	-94.223888	220	10	118	2	0.1	16	21	60	0.3
152	332358	DEVON ENERGY	Rig Supply	32.064444	-94.395277	300	65	154	2	0.4	81	80	100	0.8
153	332355	DEVON ENERGY	Rig Supply	32.129999	-94.44611	280	20	194	2	0.1	20	24	80	0.3
154	332353	DEVON ENERGY	Rig Supply	32.115833	-94.39361	210	25	133	2	0.2	36	41	50	0.8
155	332347	DEVON ENERGY	Rig Supply	32.255	-94.237777	230	12	158	2	0.1	15	19	80	0.2
156	332332	TIM HOOPER	Domestic	32.026388	-94.389999	242	20	200	2	0.1	19	24	55	0.4
157	332329	DEVON ENERGY	Rig Supply	32.220277	-94.315833	100	80	35	2	2.3	440	331	70	4.7
158	332327	BUDDY POWELL	Domestic	32.056111	-94.085277	142	20	40	2	0.5	96	92	32	2.9
159	332321	MARK WEST ENERGY	Domestic	32.155277	-94.269721	52	15	15	2	1.0	193	165	27	6.1
160	332317	NOAH LUMAN	Domestic	32.120277	-94.277499	161	17	50	2	0.3	65	67	21	3.2
161	332306	DEVON ENERGY	Rig Supply	32.071943	-94.354444	240	65	144	2	0.5	87	85	90	0.9
162	332302	RALPH FUNK	Domestic	32.043333	-94.220832	98	20	20	2	1.0	193	165	26	6.4
163	332298	DEVON ENERGY	Rig Supply	32.056111	-94.3575	340	40	178	2	0.2	43	47	80	0.6
164	332273	Mel Hanson	Domestic	32.046666	-94.575277	335	15	20	1	0.8	144	130	30	4.3
165	332265	Josh Dunn	Domestic	32.145277	-94.366388	220	15	12	1	1.3	241	199	40	5.0
166	331706	ANADARKO E & P COMPANY	Industrial	32.200277	-94.366943	220	80	10	1	8.0	1,540	947	100	9.5
167	331553	Emmitt Rather	Domestic	32.072499	-94.534444	150	15	20	1	0.8	144	130	40	3.2
168	331544	Roy Pellum	Domestic	32.067777	-94.531666	130	10	20	1	0.5	96	92	30	3.1
169	331464	TOM DERBONNE	Domestic	32.035277	-94.053333	240	20	61	1	0.3	63	65	80	0.8
170	330415	Steven Lunsceford	Domestic	32.056388	-94.306111	185	30	80	3	0.4	72	72	25	2.9
171	330410	Kevin Lindsay	Domestic	32.015555	-94.313055	100	30	30	2	1.0	193	165	40	4.1
172	330401	Rebecca Shubert & Scott Baker	Domestic	32.048888	-94.304444	208	12	60	3	0.2	39	43	28	1.5
173	330397	John Ramsey	Domestic	32.034721	-94.392221	215	12	70	2	0.2	33	38	30	1.3
174	330388	Lowell Hanson / LP	Domestic	32.186944	-94.359166	220	35	50	2	0.7	135	122	63	1.9
175	330381	Ken Fike	Domestic	31.99111	-94.087777	260	16	30	3	0.5	103	97	45	2.2
176	330374	Tony Heard	Domestic	32.269999	-94.33361	217	7	140	2	0.1	10	13	31	0.4
177	330234	Larry Fields	Domestic	31.996388	-94.085277	200	20	50	2	0.4	77	76	32	2.4
178	330221	Sammy Peace	Stock	32.049444	-94.062777	53	20	15	1	1.3	257	210	23	9.1
179	330219	Sammy Peace	Stock	32.049444	-94.062777	40	20	15	1	1.3	257	210	20	10.5
180	330218	Sammy Peace	Stock	32.049444	-94.062777	40	20	15	1	1.3	257	210	20	10.5
181	330215	Sammy Peace	Stock	32.047221	-94.062777	48	15	20	1	0.8	144	130	22	5.9
182	330210	Sammy Peace	Stock	32.047221	-94.066666	52	15	25	1	0.6	116	108	25	4.3
183	330204	Jerry Hudson	Stock	32.095277	-94.287777	215	25	50	2	0.5	96	92	30	3.1
184	330198	Jerry Hudson	Stock	32.095277	-94.28861	215	25	50	2	0.5	96	92	30	3.1
185	330190	Aubrey Sipes	Domestic	32.267221	-94.524166	253	25	70	2	0.4	69	70	38	1.8
186	330182	tony heard	Domestic	32.269999	-94.33361	217	7	140	2	0.1	10	13	31	0.4
187	330174	jason davis	Domestic	32.065555	-94.448333	231	25	70	2	0.4	69	70	26	2.7
188	330153	Kenneth Holmes	Stock	32.056111	-94.214444	64	20	25	2	0.8	154	137	25	5.5
189	330144	Kenneth Holmes	Stock	32.053611	-94.211388	49.5	15	20	2	0.8	144	130	15	8.9
190	330143	Kenneth Holmes	Stock	32.053055	-94.213611	51	15	20	2	0.8	144	130	16	8.1
191	330093	Kenneth Holmes	Stock	32.053055	-94.213611	51	20	15	2	1.3	257	210	21	10.0
192	330091	Kenneth Holmes	Stock	32.057222	-94.208611	39	20	15	2	1.3	257	210	21	10.0
193	330077	bill don davis	Domestic	32.049444	-94.223888	76	10	20	2	0.5	96	92	30	3.1
194	330074	cassie davis	Domestic	32.036944	-94.196666	45	15	15	2	1.0	193	165	17	9.7
195	330071	todd davis	Domestic	32.049444	-94.225554	69	12	30	2	0.4	77	76	33	2.3
196	330065	bobby wiggins	Domestic	32.271943	-94.336388	160	30	40	2	0.8	144	130	30	4.3
197	330058	Sam Allison	Domestic	32.249444	-94.33361	35	15	9	2	1.7	321	254	20	12.7
198	330047	todd Bogenschutz	Domestic	32.140555	-94.504722	378	25	40	2	0.6	120	111	38	2.9
199	330043	Greg Humber	Domestic	32.072777	-94.401111	236	12	100	3	0.1	23	28	26	1.1
200	330033	Dustin Cockerham	Domestic	32.072221	-94.44611	225	15	40	2	0.4	72	72	35	2.1
201	330021	Matt Comer	Domestic	32.065555	-94.441944	201	15	40	2	0.4	72	72	36	2.0
202	330013	John Bertrand	Domestic	32.191944	-94.401666	180	40	40	2	1.0	193	165	30	5.5

Record ID	Tracking Number	Owner Name	Proposed Use	Lat (NAD83)	Long (NAD83)	Well Depth (ft)	Yield (gpm)	Drawdown (ft)	Well Test Duration (hours)	Specific Capacity (gpm/ft)	Specific Capacity (ft^2/day)	Estimated Transmissivity (ft^2/day)	Saturated Thickness (ft)	Estimated Hydraulic Conductivity (ft/day)
203	330007	Billy Ross	Domestic	32.263333	-94.437777	190	15	40	2	0.4	72	72	25	2.9
204	329998	Milo Lazarini	Domestic	32.266111	-94.43361	200	25	50	2	0.5	96	92	33	2.8
205	326985	Dave and Emily LaForce	Domestic	32.207222	-94.500555	385	15	55	2	0.3	53	55	35	1.6
206	326965	VALENCE OPERATING	Rig Supply	32.08361	-94.416943	210	70	20	1	3.5	674	473	100	4.7
207	326920	ANADARKO E & P COMPANY	Industrial	32.166943	-94.350277	160	100	10	1	10.0	1,925	1,142	90	12.7
208	326792	ANADARKO E & P COMPANY	Rig Supply	32.183333	-94.38361	245	70	10	1	7.0	1,348	847	100	8.5
209	326773	ANADARKO E & P COMPANY	Industrial	32.133333	-94.416943	260	100	10	1	10.0	1,925	1,142	100	11.4
210	326371	ANADARKO E & P COMPANY	Industrial	32.183333	-94.38361	230	125	40	1	3.1	602	430	90	4.8
211	325479	Samson Lone Star	Rig Supply	32.119166	-94.118332	220	100	1	1	100.0	19,251	7,903	90	87.8
212	324703	Randy Atwood	Irrigation	32.22361	-94.044721	82	25	70	2	0.4	69	70	70	1.0
213	324672	Henry Howard	Domestic	32.121388	-94.531666	220	15	200	3	0.1	14	19	31	0.6
214	322141	Bill Bailey	Irrigation	32.243055	-94.448055	39	10	10	1	1.0	193	165	19	8.7
215	322137	C R Stone	Domestic	32.230832	-94.443333	213	13	26	1	0.5	96	92	16	5.8
216	322053	Gary WSC	Test Well	32.087221	-94.462777	382	35	131	4	0.3	51	54	202	0.3
217	321948	ANADARKO E & P COMPANY	Industrial	32	-94.366666	340	100	20	1	5.0	963	638	110	5.8
218	321943	ANADARKO E & P COMPANY	Industrial	32.166666	-94.366666	160	100	10	1	10.0	1,925	1,142	100	11.4
219	321918	XTO ENERGY	Rig Supply	32.356111	-94.442499	400	70	57	1	1.2	236	196	100	2.0
220	321576	Samson Lone Star	Rig Supply	32.044721	-94.156388	160	120	1	1	120.0	23,102	9,211	70	131.6
221	321526	Gary WSC	Public Supply	32.029166	-94.3625	362	40	69	4	0.6	112	104	182	0.6
222	320712	ROGER ROBINSON	Domestic	31.993888	-94.119999	100	25	37	1	0.7	130	119	40	3.0
223	319840	Tom Harrington	Domestic	32.038888	-94.465833	224	10	110	4	0.1	18	22	59	0.4
224	319597	Margaretha Baker	Domestic	32.139999	-94.391388	200	8	100	2	0.1	15	20	30	0.7
225	319576	John Hamilton	Domestic	32.148333	-94.327777	60	30	20	1	1.5	289	232	30	7.7
226	319483	JACKIE STEPHENS	Domestic	32.090277	-94.083888	200	6	127	1	0.0	9	13	40	0.3
227	317962	George Taylor	Domestic	32.03611	-94.587221	420	20	40	3	0.5	96	92	90	1.0
228	317717	ANADARKO E & P COMPANY	Industrial	32.183333	-94.400277	180	80	10	1	8.0	1,540	947	80	11.8
229	317452	XTO ENERGY	Hydraulic Fracturing Supply	32.358888	-94.424166	370	100	20	1	5.0	963	638	170	3.8
230	317220	XTO ENERGY	Rig Supply	32.35	-94.416666	360	100	40	1	2.5	481	357	160	2.2
231	315636	Pinnergy, Ltd.	Industrial	32.15	-94.566943	560	100	40	1	2.5	481	357	220	1.6
232	315217	L. C. Tew	Domestic	32.27861	-94.208611	200	15	60	1	0.3	48	52	90	0.6
233	314613	Chesapeake Operating	Rig Supply	32.141666	-94.083888	280	70	1	1	70.0	13,476	5,857	90	65.1
234	313445	Johnny Webb	Domestic	31.985833	-94.446666	220	15	50	4	0.3	58	60	50	1.2
235	313296	Jeremy Beralleaux	Domestic	32.138888	-94.378888	230	15	100	4	0.2	29	34	26	1.3
236	313289	Madonna Ashmore	Domestic	32.073054	-94.547499	280	13	41	2	0.3	61	63	28	2.2
237	313284	J R Duke	Domestic	32.106944	-94.459166	298	15	30	1	0.5	96	92	28	3.3
238	313259	Charles R. Reynolds	Domestic	32.123888	-94.179721	82	12	20	6	0.6	116	108	41	2.6
239	313257	Terry Goodwin	Domestic	32.036666	-94.046666	188	9	100	1	0.1	17	22	72	0.3
240	313253	Brad Barnes	Domestic	32.04611	-94.22361	113	15	40	3	0.4	72	72	45	1.6
241	313223	Samson Lone Star	Rig Supply	32.053888	-94.171666	140	100	1	1	100.0	19,251	7,903	60	131.7
242	313049	ANADARKO E & O COMPANY	Industrial	32.18361	-94.416943	190	30	10	1	3.0	578	416	100	4.2
243	313048	ANADARKO E & P COMPANY	Industrial	32.166666	-94.366666	180	70	10	1	7.0	1,348	847	100	8.5
244	312514	ANADARKO E & P COMPANY	Industrial	32.083333	-94.3	170	80	10	1	8.0	1,540	947	80	11.8
245	312163	HOWARD KADE COCKRELL	Domestic	31.986388	-94.122777	120	25	46	1	0.5	105	99	40	2.5
246	311934	ANADARKO E & P COMPANY	Industrial	31.974721	-94.543333	320	80	20	1	4.0	770	529	140	3.8
247	311888	ANADARKO E & P COMPANY	Industrial	32.200277	-94.366666	165	70	10	1	7.0	1,348	847	105	8.1
248	311855	TANOS EXPLORATION, LLC	Rig Supply	32.333333	-94.483333	390	50	90	1	0.6	107	101	180	0.6
249	311482	XTO Energy	Rig Supply	32.289999	-94.462777	452	65	75	1	0.9	167	146	102	1.4
250	310549	ANADARKO E & P COMPANY	Industrial	32.15	-94.516666	340	80	15	1	5.3	1,027	674	140	4.8
251	310134	ANADARKO E & P COMPANY	Industrial	32.048888	-94.282499	210	80	10	1	8.0	1,540	947	180	5.3
252	310088	James Jackson	Domestic	32.062222	-94.514722	340	10	100	1	0.1	19	24	40	0.6
253	310072	VALENCE OPERATING	Hydraulic Fracturing Supply	32.088888	-94.43611	300	78	82	1	1.0	183	158	140	1.1
254	309934	Forest Oil Corporation	Hydraulic Fracturing Supply	32.034444	-94.208333	230	78	1	1	78.0	15,016	6,414	80	80.2
255	309911	Samson Lone Star	Rig Supply	32.051388	-94.203333	140	75	1	1	75.0	14,439	6,207	90	69.0
256	309549	Craig Wimberly	Domestic	32.128332	-94.144999	68	10	22	0.5	0.5	88	85	20	4.3
257	309546	Craig Wimberly	Domestic	32.128332	-94.144999	37	8	10	0.5	0.8	154	137	18	7.6
258	308282	Forest Oil Corporation	Rig Supply	32.021666	-94.194444	160	80	1	1	80.0	15,401	6,552	80	81.9
259	307985	WILDHORSE RESOURCES	Rig Supply	32.013055	-94.33861	220	65	147	3	0.4	85	83	120	0.7
260	307735	ANADARKO E & P COMPANY	Industrial	32.197221	-94.434999	340	55	110	1	0.5	96	92	100	0.9
261	307493	PETROQUEST ENERGY, LLC	Rig Supply	32.08361	-94.100277	300	70	10	1	7.0	1,348	847	180	4.7
262	306888	XTO ENERGY	Hydraulic Fracturing Supply	32.333333	-94.283333	380	80	20	1	4.0	770	529	100	5.3
263	306886	ANADARKO E & P COMPANY	Industrial	32.183333	-94.4	180	70	10	1	7.0	1,348	847	100	8.5
264	306732	Samson Lone Star	Rig Supply	32.055277	-94.222499	160	65	1	1	65.0	12,513	5,504	90	61.2
265	305804	ANADARKO E& P COMPANY	Industrial	32.143333	-94.391388	260	80	20	1	4.0	770	529	100	5.3
266	305691	XTO Energy	Rig Supply	32.361111	-94.47361	205	70	20	1	3.5	674	473	80	5.9
267	304899	DEVON ENERGY	Rig Supply	32.037777	-94.370277	320	65	141	1	0.5	89	86	200	0.4
268	304845	VALENCE OPERATING COMPANY	Rig Supply	32.091388	-94.440555	270	55	85	1	0.6	125	115	120	1.0
269	304724	EOG Resources	Stock	32.066111	-94.350555	220	30	50	1	0.6	116	108	100	1.1
270	304677	ANADARKO E & P COMPANY	Industrial	32.018888	-94.528888	340	55	110	1	0.5	96	92	190	0.5
271	304665	RITTER CONSTRUCTION COMPANY	Domestic	31.999721	-94.183888	120	10	15	1	0.7	128	117	70	1.7
272	304302	Samson Lone Star	Rig Supply	32.052222	-94.217777	260	65	1	1	65.0	12,513	5,504	80	68.8
273	303281	WILDHORSE RESOURCES	Rig Supply	32.014444	-94.336944	220	70	130	1	0.5	104	98	190	0.5
274	302844	Holland, Linda	Domestic	32.101111	-94.149166	120	35	45	1	0.8	150	134	97	1.4
275	302838	Berry, James	Stock	32.160833	-94.094444	270	35	145	1	0.2	46	50	90	0.6
276	302809	Weaver, Pamela	Domestic	32.194444	-94.258333	62	10	42	1	0.2	46	49	52	1.0
277	302236	XTO ENERGY	Hydraulic Fracturing Supply	32.35	-94.416943	400	100	20	1	5.0	963	638	160	4.0
278	300812	XTO Energy	Rig Supply	32.317777	-94.248888	310	50	50	2	1.0	193	165	200	0.8
279	300725	ANADARKO E & P COMPANY	Industrial	32.206388	-94.387221	240	65	85	1	0.8	147	132	90	1.5
280	299968	Ricky Little	Domestic	32.345555	-94.129166	183	25	70	1	0.4	69	70	85	0.8
281	299252	Samson	Rig Supply	32.079443	-94.183054	120	120	1	1	120.0	23,102	9,211	70	131.6
282	298731	ANADARKO E & P COMPANY	Industrial	32.001111	-94.504722	300	60	87	1	0.7	133	121	180	0.7
283	298494	Jenna Stewart	Domestic	32.18861	-94.309166	502	38	80	1	0.5	91	88	110	0.8
284	296252	EOG Resources	Rig Supply	32.063611	-94.344721	230	50	1	1	50.0	9,626	4,415	100	44.2
285	296030	JEREMY MCBRIDE	Domestic	31.985833	-94.145833	320	50	148	1	0.3	65	66	60	1.1
286	294249	ANADARKO E & P COMPANY	Industrial	32.160833	-94.400833	300	55	70	1	0.8	151	135	100	1.3
287	293730	Rob Tuttle	Domestic	32.261944	-94.523332	345	15	120	3	0.1	24	29	91	0.3
288	292061	VALENCE OPERATING	Rig Supply	32.32861	-94.267499	530	70	106	1	0.7	127	117	130	0.9
289	292041	EOG RESOURCES	Hydraulic Fracturing Supply	32.171666	-94.44361	340	70	50	1	1.4	270	219	100	2.2
290	291918	ANADARKO E & P COMPANY	Industrial	32.103333	-94.283888	220	65	85	1	0.8	147	132	150	0.9
291	291897	ANADARKO E & P COMPANY	Industrial	32.084444	-94.305555	220	65	85	1	0.8	147	132	100	1.3
292	291755	ANADARKO E & P COMPANUY	Industrial	32.183333	-94.350277	200	80	20	1	4.0	770	529	100	5.3
293	291754	ANADARKO E & P COMPANY	Industrial	32.2	-94.38361	290	70	20	1	3.5	674	473	90	5.3
294	290982	ANADARKO E & P COMPANY	Industrial	32.183333	-94.350277	200	80	20	1	4.0	770	529	100	5.3
295	290981	ANADARKO E & P COMPANY	Industrial	32.2	-94.38361	290	70	20	1	3.5	674	473	90	5.3
296	290340	RITTER CONSTRUCTION COMPANY	Stock	32.005277	-94.17861	90	35	45	1	0.8	150	134	40	3.3
297	290339	RITTER CONSTRUCTION COMPANY	Stock	32.089166	-94.393333	80	15	20	1	0.8	144	130	30	4.3
298	290198	RITTER CONSTRUCTION COMPANY	Stock	32.000277	-94.15	85	15	5	1	3.0	578	416	75	5.5
299	290190	RITTER CONSTRUCTION COMPANY	Stock	32.073332	-94.368888	160	70	40	1	1.8	337	264	90	2.9
300	289534	Dan Parker	Domestic	32.138055	-94.379443	216	15	40	1	0.4	72	72	28	2.6
301	289529	Jeff Davison	Domestic	32.138888	-94.379721	225	15	123	40	0.1	23	28	35	0.8
302	289524	Tim Harkrider	Domestic	32.139444	-94.381666	218	15	120	1	0.1	24	29	33	0.9
303	289515	CISD	Irrigation	32.160277	-94.35	278	100	100	1	1.0	193	165	37	4.5

Record ID	Tracking Number	Owner Name	Proposed Use	Lat (NAD83)	Long (NAD83)	Well Depth (ft)	Yield (gpm)	Drawdown (ft)	Well Test Duration (hours)	Specific Capacity (gpm/ft)	Specific Capacity (ft^2/day)	Estimated Transmissivity (ft^2/day)	Saturated Thickness (ft)	Estimated Hydraulic Conductivity (ft/day)
304	289508	CISD	Irrigation	32.163888	-94.365555	280	100	100	1	1.0	193	165	47	3.5
305	289499	Ashley Morgan	Domestic	32.224166	-94.486666	405	15	60	2	0.3	48	52	30	1.7
306	289052	harelton oil and gas	Rig Supply	32.150277	-94.174721	290	40	2	1	20.0	3,850	2,045	60	34.1
307	288887	JEREMY MCBRIDE	Domestic	31.985833	-94.145833	160	67	51	1	1.3	253	208	30	6.9
308	288866	harleton oil and gas	Rig Supply	32.161944	-94.161111	230	25	10	1	2.5	481	357	75	4.8
309	288443	ANADARKO E & P COMPANY	Industrial	32.1525	-94.400277	290	55	85	1	0.6	125	115	100	1.1
310	288297	ANADARKO E & P COMPANY	Industrial	32.188888	-94.403055	230	150	15	1	10.0	1,925	1,142	80	14.3
311	288225	ANADARKO E & P COMPANY	Industrial	32.1525	-94.405	280	55	85	1	0.6	125	115	100	1.1
312	287722	ANADARKO E & P COMPANY	Industrial	32.153333	-94.504166	400	50	90	1	0.6	107	101	200	0.5
313	287620	VALENCE OPERATING COMPANY	Rig Supply	32.331666	-94.271666	300	60	87	1	0.7	133	121	100	1.2
314	287550	Tondreau, David & JoAnn	Domestic	32.015	-94.372777	240	15	98	1	0.2	29	34	110	0.3
315	286180	Samson	Hydraulic Fracturing Supply	32.070832	-94.140555	280	60	1	1	60.0	11,551	5,146	100	51.5
316	286177	Samson	Hydraulic Fracturing Supply	32.070277	-94.133888	260	30	1	1	30.0	5,775	2,875	100	28.7
317	285560	Samson	Hydraulic Fracturing Supply	32.070277	-94.140277	240	80	1	1	80.0	15,401	6,552	100	65.5
318	285559	Samson	Rig Supply	32.053055	-94.194444	160	100	1	1	100.0	19,251	7,903	100	79.0
319	285558	Samson	Hydraulic Fracturing Supply	32.047499	-94.199444	160	50	1	1	50.0	9,626	4,415	100	44.2
320	285555	Samson	Rig Supply	32.047777	-94.190555	160	100	1	1	100.0	19,251	7,903	75	105.4
321	284964	ANADARKO E & P COMPANY	Industrial	32.183333	-94.383333	225	80	10	1	8.0	1,540	947	100	9.5
322	284922	ANADARKO E & P COMPANY	Industrial	32.184444	-94.35	200	45	150	1	0.3	58	60	130	0.5
323	284921	ANADARKO E & P COMPANY	Industrial	32.15	-94.5	400	80	25	1	3.2	616	439	140	3.1
324	284758	ANADARKO E & P COMPANY	Industrial	32.110277	-94.25	100	140	30	1	4.7	898	602	70	8.6
325	284338	ANADARKO E & P COMPANY	Industrial	32.166943	-94.416666	190	65	10	1	6.5	1,251	796	100	8.0
326	284333	CHEVRON	Rig Supply	32.1	-94.466666	350	80	15	1	5.3	1,027	674	100	6.7
327	284163	ANADARKO E & P COMPANY	Industrial	32.108333	-94.268888	250	50	85	1	0.6	113	106	130	0.8
328	283869	VALENCE OPERATING COMPANY	Rig Supply	32.332499	-94.264444	320	55	110	1	0.5	96	92	110	0.8
329	283527	Red River Drilling	Rig Supply	32.367221	-94.068888	210	80	1	1	80.0	15,401	6,552	90	72.8
330	282755	J.P. Davis	Stock	32.073054	-94.435277	322	47	142	1	0.3	64	65	102	0.6
331	281774	XTO ENERGY, INC.	Hydraulic Fracturing Supply	32.358611	-94.428332	380	50	90	1	0.6	107	101	160	0.6
332	281760	ANADARKO E & P COMPANY	Industrial	32.166666	-94.366943	125	70	5	1	14.0	2,695	1,515	85	17.8
333	281630	Peggy Brightwell	Domestic	32.252777	-94.427777	320	100	1	1	100.0	19,251	7,903	70	112.9
334	280930	PETROQUEST	Rig Supply	32.122221	-94.103333	140	75	40	1	1.9	361	280	90	3.1
335	280901	XTO ENERGY, INC.	Hydraulic Fracturing Supply	32.357777	-94.432221	350	50	90	1	0.6	107	101	130	0.8
336	280500	ANADARKO E & P COMPANY	Industrial	32.153888	-94.515	280	55	85	1	0.6	125	115	110	1.0
337	280457	Floyd Dyer	Domestic	32.253888	-94.427499	300	80	1	1	80.0	15,401	6,552	70	93.6
338	280442	CHEVRON	Rig Supply	32.216666	-94.466666	200	60	70	1	0.9	165	145	90	1.6
339	279147	ANADARKO E & P COMPANY	Industrial	32.083333	-94.2	200	50	10	1	5.0	963	638	90	7.1
340	279146	ANADARKO E & P COMPANY	Industrial	32.183333	-94.35	200	65	10	1	6.5	1,251	796	100	8.0
341	279113	ANADARKO E & P COMPANY	Industrial	32.021388	-94.477221	300	55	70	1	0.8	151	135	190	0.7
342	277747	ANADARKO E & P COMPANY	Industrial	32.064444	-94.2	170	40	70	1	0.6	110	103	100	1.0
343	277638	PETROQUEST	Rig Supply	32.15	-94.083333	260	70	15	1	4.7	898	602	80	7.5
344	277510	Jim Strong	Domestic	32.064444	-94.097777	92	25	1	1	25.0	4,813	2,466	73	33.8
345	277268	ANADARKO E & P COMPANY	Industrial	32.177777	-94.428332	340	60	150	1	0.4	77	76	140	0.5
346	276978	Manuell Munoz	Domestic	32.014444	-94.372499	246	10	50	1	0.2	39	43	31	1.4
347	276974	Nancey Alexander	Domestic	32.03111	-94.370554	269	10	100	1	0.1	19	24	38	0.6
348	276905	Mr Lake	Domestic	31.994999	-94.499444	325	10	40	1	0.3	48	52	32	1.6
349	276785	XTO ENERGY, INC.	Rig Supply	32.303333	-94.313888	320	55	110	1	0.5	96	92	100	0.9
350	276448	Samson	Rig Supply	32.078888	-94.154444	100	75	1	1	75.0	14,439	6,207	85	73.0
351	276444	PANOLA COUNTY RD AND BRIDGE	Domestic	32.293055	-94.542777	335	15	60	1	0.3	48	52	18	2.9
352	276415	Judy Bellows	Domestic	32.040555	-94.305555	181	13	40	1	0.3	63	64	25	2.6
353	275669	ANADASRKO E & P COMPANY LP	Industrial	32.166666	-94.416943	360	90	15	1	6.0	1,155	744	100	7.4
354	274782	XTO ENERGY, INC.	Rig Supply	32.222221	-94.1	75	70	5	1	14.0	2,695	1,515	55	27.6
355	274446	Allison	Stock	32.191944	-94.41861	295	15	10	1	1.5	289	232	93	2.5
356	274418	ANADARKO E & P COMPANY	Industrial	32.192221	-94.352222	230	65	85	1	0.8	147	132	100	1.3
357	274221	PETROQUEST	Rig Supply	32.15	-94.066666	170	70	10	1	7.0	1,348	847	100	8.5
358	274089	Leon Moore	Domestic	32.0075	-94.593888	340	25	40	4	0.6	120	111	100	1.1
359	273996	XTO ENERGY, INC.	Rig Supply	32.241666	-94.201944	200	65	85	1	0.8	147	132	170	0.8
360	273905	ANADARKO E & P COMPANY	Industrial	32.019999	-94.402222	320	55	110	1	0.5	96	92	170	0.5
361	273730	Samson Lone Star	Hydraulic Fracturing Supply	32.1125	-94.107777	240	75	1	1	75.0	14,439	6,207	100	62.1
362	273712	Samson Lone Star	Rig Supply	32.119443	-94.124999	200	50	1	1	50.0	9,626	4,415	90	49.1
363	272996	DEVON ENERGY	Rig Supply	32.038333	-94.357777	300	65	41	1	1.6	305	243	170	1.4
364	272421	Deadwood WSC	Public Supply	32.178888	-94.177221	300	66	186	1	0.4	68	69	150	0.5
365	272264	CHEVRON TEXACO	Rig Supply	32.083333	-94.050277	220	75	10	1	7.5	1,444	897	160	5.6
366	272138	Michael Hadman	Domestic	32.057777	-94.516111	300	15	10	24	1.5	289	232	40	5.8
367	271535	ANADARKO E & P COMPANY	Industrial	32.223332	-94.375554	160	75	10	1	7.5	1,444	897	80	11.2
368	271524	XTO ENERGY	Rig Supply	32.298055	-94.203611	190	40	20	1	2.0	385	296	100	3.0
369	271523	ANADARKO E & P COMPANY	Industrial	32.13361	-94.400277	280	80	20	1	4.0	770	529	100	5.3
370	271189	XTO ENERGY	Rig Supply	32.28361	-94.273888	100	50	50	1	1.0	193	165	40	4.1
371	271069	DEVON ENERGY	Hydraulic Fracturing Supply	32.022777	-94.379443	300	5	118	1	0.0	8	12	180	0.1
372	271056	DEVON ENERGY	Hydraulic Fracturing Supply	32.084166	-94.312777	200	60	33	1	1.8	350	273	100	2.7
373	270995	HENRY HOWARD	Domestic	32.121666	-94.531943	380	50	47	1	1.1	205	174	80	2.2
374	270994	HENRY HOWARD	Stock	32.124166	-94.533054	380	50	52	1	1.0	185	160	80	2.0
375	270992	DEVON ENERGY	Rig Supply	32.03361	-94.391944	300	30	190	1	0.2	30	35	180	0.2
376	270938	Collier, Will	Domestic	32.36	-94.190555	265	100	52	1	1.9	370	286	165	1.7
377	270931	Collier, Will	Domestic	32.3575	-94.189444	280	40	48	1	0.8	160	142	120	1.2
378	270817	XTO ENERGY, INC.	Rig Supply	32.35	-94.4	360	55	100	1	0.6	106	100	250	0.4
379	270576	Classic Operating	Rig Supply	32.280277	-94.51861	420	60	1	1	60.0	11,551	5,146	90	57.2
380	270422	Marvin Ritter	Domestic	32.04611	-94.401944	285	100	40	24	2.5	481	357	85	4.2
381	269531	ANADARKO E & P COMPANY	Industrial	32.13361	-94.4	280	70	20	1	3.5	674	473	100	4.7
382	269319	Classic Hydrocarbon	Rig Supply	32.014444	-94.080554	240	70	1	1	70.0	13,476	5,857	85	68.9
383	268932	Deadwood WSC	Test Well	32.179721	-94.193888	360	42	99	8	0.4	82	80	155	0.5
384	268509	R. LACY SERVICE LTD.	Rig Supply	32.283333	-94.333333	360	65	25	1	2.6	501	368	160	2.3
385	268323	harelton oil and gas	Rig Supply	32.060277	-94.096666	160	35	1	2	35.0	6,738	3,272	65	50.3
386	268315	XTO ENERGY, INC.	Hydraulic Fracturing Supply	32.3	-94.183333	210	100	20	1	5.0	963	638	90	7.1
387	268031	XTO ENERGY	Hydraulic Fracturing Supply	32.301666	-94.183333	220	100	20	1	5.0	963	638	100	6.4
388	267876	Classic Operating	Rig Supply	32.018054	-94.045277	170	80	1	1	80.0	15,401	6,552	100	65.5
389	267338	Eva Harris	Domestic	32.248333	-94.209444	193	50	62	1	0.8	155	138	70	2.0
390	267022	CHEVRON TEXACO	Rig Supply	32.23361	-94.433333	360	50	90	1	0.6	107	101	110	0.9
391	267010	DEVON ENERGY	Rig Supply	32.039166	-94.394999	380	50	44	1	1.1	219	184	180	1.0
392	266373	DEVON ENERGY	Rig Supply	32.034166	-94.379443	400	30	256	1	0.1	23	27	100	0.3
393	266292	XTO ENERGY, INC.	Rig Supply	32.33361	-94.4	240	75	15	1	5.0	963	638	140	4.6
394	266226	Dove Creek Energy	Rig Supply	32.181666	-94.498888	282	85	66	1	1.3	248	204	22	9.3
395	265675	XTO ENERGY, INC.	Hydraulic Fracturing Supply	32.3	-94.183333	200	70	150	1	0.5	90	87	160	0.5
396	265512	Stewart Lipsey	Domestic	32.147777	-94.361111	245	60	1	1	60.0	11,551	5,146	85	60.5
397	265410	DEVON ENERGY PROD CO LP	Hydraulic Fracturing Supply	32.033333	-94.383333	340	60	45	1	1.3	257	210	180	1.2
398	264944	DEVON ENERGY PROD. CO LP	Hydraulic Fracturing Supply	32.016943	-94.383333	320	60	30	1	2.0	385	296	180	1.6
399	264454	MR & MRS JOE HEWITT	Domestic	31.990555	-94.074443	180	15	126	2	0.1	23	28	60	0.5
400	263985	Beckville Disposal	Industrial	32.224999	-94.490277	180	75	1	1	75.0	14,439	6,207	80	77.6
401	262698	DEVON ENERGY	Rig Supply	32.09611	-94.37611	300	45	114	1	0.4	76	76	120	0.6
402	262646	XTO ENERGY	Hydraulic Fracturing Supply	32.33361	-94.433333	290	100	85	1	1.2	226	189	110	1.7
403	261121	ANADARKO E & P COMPANY	Industrial	32.116666	-94.38361	140	75	40	1	1.9	361	280	50	5.6
404	260836	ANADARKO E & P COMPANY	Industrial	32.116666	-95.366943	200	80	10	1	8.0	1,540	947	120	7.9

Record ID	Tracking Number	Owner Name	Proposed Use	Lat (NAD83)	Long (NAD83)	Well Depth (ft)	Yield (gpm)	Drawdown (ft)	Well Test Duration (hours)	Specific Capacity (gpm/ft)	Specific Capacity (ft^2/day)	Estimated Transmissivity (ft^2/day)	Saturated Thickness (ft)	Estimated Hydraulic Conductivity (ft/day)
405	260484	ANADARKO E & P COMPANY	Industrial	32.033333	-94.366943	190	75	50	1	1.5	289	232	110	2.1
406	260319	ANADARKO E & P COMPANY	Industrial	32.116666	-94.38361	120	80	5	1	16.0	3,080	1,695	80	21.2
407	259927	EMMER GRAY MALLARD, et al	Rig Supply	32.291388	-94.138055	120	60	46	1	1.3	251	206	50	4.1
408	259261	DEVON ENERGY	Hydraulic Fracturing Supply	32.325277	-94.126943	140	65	45	1	1.4	278	225	60	3.7
409	259029	ANADARKO E & P COMPANY	Industrial	32.200277	-94.366943	200	65	90	1	0.7	139	126	80	1.6
410	258972	ANADARKO E & P COMPANY	Industrial	31.98361	-94.366943	290	75	10	1	7.5	1,444	897	175	5.1
411	257854	ANADARKO E & P COMPANY, INC.	Industrial	32.066943	-94.18361	80	65	5	1	13.0	2,503	1,424	50	28.5
412	256998	Key Production	Rig Supply	32.03611	-94.09611	210	70	143	2	0.5	94	91	80	1.1
413	256995	Comstock Oil & Gas	Rig Supply	32.245555	-94.498888	400	70	208	2	0.3	65	66	100	0.7
414	256987	Chevron Texaco	Rig Supply	32.244721	-94.406666	220	65	139	2	0.5	90	87	100	0.9
415	256986	Chevron Texaco	Rig Supply	32.170832	-94.489444	160	70	66	2	1.1	204	173	80	2.2
416	256985	Chevron Texaco	Rig Supply	32.252222	-94.453611	310	75	112	2	0.7	129	118	80	1.5
417	256984	Chevron Texaco	Rig Supply	32.289444	-94.434444	460	70	164	2	0.4	82	81	200	0.4
418	256981	Devon Energy	Rig Supply	32.089444	-94.244444	100	70	41	2	1.7	329	259	50	5.2
419	256978	Devon Energy	Rig Supply	32.049444	-94.389721	300	50	173	2	0.3	56	58	100	0.6
420	256968	Devon Energy	Rig Supply	32.089166	-94.478888	100	70	49	2	1.4	275	223	50	4.5
421	256963	Devon Energy	Rig Supply	32.098888	-94.267221	260	70	134	2	0.5	101	96	100	1.0
422	256962	Devon Energy	Rig Supply	32.077221	-94.441388	260	75	148	2	0.5	98	93	100	0.9
423	256959	Chesapeake Operating	Rig Supply	32.123888	-94.487777	370	70	184	2	0.4	73	73	100	0.7
424	256958	Chesapeake Operating	Rig Supply	32.097499	-94.358611	260	20	174	2	0.1	22	27	80	0.3
425	256956	Chesapeake Operating	Rig Supply	32.076943	-94.465	280	60	174	2	0.3	66	68	80	0.8
426	256952	Chesapeake Operating	Rig Supply	32.103888	-94.36	260	60	152	2	0.4	76	76	60	1.3
427	256381	XTO ENERGY, INC.	Rig Supply	32.083333	-94.166666	400	65	60	1	1.1	209	177	220	0.8
428	256358	XTO ENERGY	Rig Supply	32.350555	-94.392777	280	100	50	1	2.0	385	296	100	3.0
429	255648	PETROQUEST	Rig Supply	32.033333	-94.083333	260	65	70	1	0.9	179	155	220	0.7
430	255290	GLENN BORDNER	Domestic	31.981943	-94.129999	100	60	21	1	2.9	550	399	40	10.0
431	255265	ANADARKO E & P COMPANY, INC.	Industrial	32.166666	-94.400277	200	65	25	1	2.6	501	368	100	3.7
432	254616	R. LACY	Rig Supply	32.266666	-94.4	280	55	80	1	0.7	132	121	100	1.2
433	254219	PETROQUEST	Rig Supply	32.033333	-94.083333	220	65	85	1	0.8	147	132	180	0.7
434	254174	S. D. TWOMEY	Irrigation	32.13361	-94.3	190	75	50	1	1.5	289	232	110	2.1
435	252691	Action Frac Fluids	Rig Supply	32.091944	-94.04361	140	55	2	1	27.5	5,294	2,672	65	41.1
436	252688	Action Frac Fluids	Rig Supply	32.042777	-94.076388	140	45	3	2	15.0	2,888	1,606	80	20.1
437	251934	JEAN BRANNON TRUST	Domestic	32.060555	-94.400555	240	29	50	2	0.6	112	104	80	1.3
438	251932	DEVON ENERGY	Rig Supply	32.043888	-94.351111	240	30	130	2	0.2	44	48	120	0.4
439	251926	JEFF STEPHENS	Domestic	32.08861	-94.080832	140	35	60	2	0.6	112	105	60	1.7
440	251747	ANADARKO E & P COMPANY, INC.	Industrial	32.1	-94.200277	85	70	5	1	14.0	2,695	1,515	65	23.3
441	251707	VALENCE OPERATING COMPANY	Rig Supply	32.283333	-94.400277	240	80	10	1	8.0	1,540	947	100	9.5
442	251462	XTO ENERGY, INC,.	Rig Supply	32.350277	-94.166943	250	65	90	1	0.7	139	126	100	1.3
443	251260	eog resources	Rig Supply	32.093888	-94.405277	275	25	2	1	12.5	2,406	1,378	45	30.6
444	251211	XTO Energy	Rig Supply	32.289166	-94.241388	180	70	50	1	1.4	270	219	120	1.8
445	250855	ANADARKO E & P COMPANY, INC.	Industrial	32.18361	-94.466666	265	65	35	1	1.9	358	278	100	2.8
446	250837	ANADARKO E & P COMPANY, INC.	Industrial	32.216666	-94.366666	200	70	15	1	4.7	898	602	160	3.8
447	250496	CHEVRON TEXACO	Rig Supply	32.033333	-94.066666	230	60	20	1	3.0	578	416	180	2.3
448	250047	Odum, Kathy	Domestic	32.315	-94.103055	100	12	82	1	0.1	28	33	90	0.4
449	249846	Chevron Texaco	Rig Supply	32.094166	-94.087221	500	60	120	1	0.5	96	92	360	0.3
450	249100	ANADARKO E & P COMPANY	Industrial	32.13361	-94.383333	190	80	15	1	5.3	1,027	674	100	6.7
451	247635	DEVON ENERGY	Rig Supply	32.074166	-94.361111	260	30	117	2	0.3	49	53	100	0.5
452	247534	PETROQUEST	Rig Supply	32.15	-94.066943	200	65	85	1	0.8	147	132	120	1.1
453	247510	VALENCE OPERATING COMPANY	Rig Supply	32.266943	-94.4	300	60	87	1	0.7	133	121	100	1.2
454	247181	R. LACY SERVICES, INC.	Rig Supply	32.266666	-94.383333	250	80	10	1	8.0	1,540	947	100	9.5
455	246301	ELPASO ONSHORE DRILLING	Rig Supply	32.02361	-94.498888	165	70	20	1	3.5	674	473	75	6.3
456	246202	ANADARKO E & P COMPANY	Rig Supply	32.15	-94.366943	300	60	87	1	0.7	133	121	80	1.5
457	245820	CX Operating	Rig Supply	32.008888	-94.199721	240	70	60	1	1.2	225	188	100	1.9
458	245376	ANADARKO E & P COMPANY, INC.	Industrial	32.15	-94.383333	250	65	85	1	0.8	147	132	90	1.5
459	244841	XTO ENERGY	Rig Supply	32.016943	-94.08361	240	80	20	1	4.0	770	529	90	5.9
460	244344	Benefield, Kevin	Domestic	32.343055	-94.163055	110	20	40	1	0.5	96	92	70	1.3
461	243648	ANADARKO E & P COMPANY LP	Rig Supply	32.116943	-94.466666	325	65	25	1	2.6	501	368	105	3.5
462	243563	DEVON ENERGY	Rig Supply	32.069166	-94.359166	360	60	53	2	1.1	218	183	80	2.3
463	243537	DEVON ENERGY	Rig Supply	32.034444	-94.363888	340	60	80	2	0.8	144	130	80	1.6
464	243520	DEVON ENERGY	Rig Supply	32.078888	-94.316666	120	70	53	2	1.3	254	209	80	2.6
465	242526	XTO ENERGY INC.	Rig Supply	32.288888	-94.234999	170	65	40	1	1.6	313	248	90	2.8
466	241538	Classic Operating	Rig Supply	31.988888	-94.1	240	90	75	1	1.2	231	192	90	2.1
467	241535	Chesapeake Operating	Rig Supply	32.199721	-94.065	160	65	1	1	65.0	12,513	5,504	90	61.2
468	241397	NFR ENERGY	Rig Supply	32.181666	-94.472777	270	50	50	1	1.0	193	165	100	1.7
469	240892	ANADARKO E & P COMPANY, INC.	Rig Supply	32.083333	-94.2	80	60	25	1	2.4	462	344	30	11.5
470	239476	Fortson Oil	Rig Supply	32.081388	-94.517221	340	65	100	2	0.7	125	115	100	1.1
471	239216	Goss, Dan	Domestic	32.038888	-94.270277	280	15	59	1	0.3	49	52	115	0.5
472	238947	PATARA OIL & GAS	Rig Supply	32.187221	-94.555555	460	45	100	2	0.5	87	84	120	0.7
473	238945	DEVON ENERGY	Rig Supply	32.062222	-94.383054	300	60	100	2	0.6	116	108	100	1.1
474	238942	DEVON ENERGY	Rig Supply	32.064166	-94.382499	320	60	104	2	0.6	111	104	100	1.0
475	238603	DEVON ENERGY	Rig Supply	32.069721	-94.316666	280	35	130	2	0.3	52	55	100	0.5
476	238131	xto energy inc.	Rig Supply	32.355	-94.403333	280	75	50	2	1.5	289	232	100	2.3
477	237703	Miller, Deon	Domestic	32.254444	-94.2125	160	18	80	1	0.2	43	47	80	0.6
478	237462	DEVON ENERGY	Rig Supply	32.337499	-94.09361	120	65	51	2	1.3	245	202	60	3.4
479	237341	ANADARKO E & P COMPANY, INC	Rig Supply	32.066666	-94.183333	100	90	5	1	18.0	3,465	1,872	80	23.4
480	237140	Samson	Rig Supply	32.051111	-94.205833	100	100	1	1	100.0	19,251	7,903	80	98.8
481	237043	ANADARKO E & P cOMPANY, iNC.	Rig Supply	32.016666	-94.38361	300	80	20	1	4.0	770	529	200	2.6
482	236996	Sun River Operating, Inc.	Rig Supply	32.051388	-94.444166	260	80	5	1	16.0	3,080	1,695	60	28.3
483	236605	Beason, Bobby	Domestic	32.269443	-94.120277	100	7	60	1	0.1	22	27	77	0.4
484	236402	PATARA OIL & GAS	Rig Supply	32.191388	-94.533888	490	60	50	2	1.2	231	192	80	2.4
485	235574	GLASSELL PRODUCING COMPANY	Rig Supply	32.23361	-94.216666	220	80	10	1	8.0	1,540	947	100	9.5
486	234655	ANADARKO E & P COMPANY, INC.	Rig Supply	32.1	-94.216666	110	80	5	1	16.0	3,080	1,695	80	21.2
487	234077	DEVON ENERGY	Rig Supply	32.054166	-94.39861	300	35	273	2	0.1	25	29	100	0.3
488	233915	Classic Operating	Rig Supply	32.026943	-94.094444	240	70	50	1	1.4	270	219	80	2.7
489	233912	Classic Operating	Rig Supply	32.015	-94.051666	260	60	75	1	0.8	154	137	140	1.0
490	233833	BOBBY RITTER	Domestic	31.98361	-94.183333	140	25	10	1	2.5	481	357	100	3.6
491	233558	Devon Energy	Rig Supply	32.206944	-94.336666	220	60	148	2	0.4	78	77	100	0.8
492	233556	Devon Energy	Rig Supply	32.311666	-94.138333	100	70	71	2	1.0	190	163	50	3.3
493	233555	Devon Energy	Rig Supply	32.051944	-94.341666	300	40	148	2	0.3	52	55	60	0.9
494	233554	Devon Energy	Rig Supply	32.215277	-94.340555	160	70	84	2	0.8	160	142	90	1.6
495	233552	Devon Energy	Rig Supply	32.190555	-94.309166	140	60	88	2	0.7	131	120	80	1.5
496	233551	Devon Energy	Rig Supply	32.2575	-94.21861	210	20	139	2	0.1	28	32	100	0.3
497	233005	Patara Oil & Gas	Rig Supply	32.150833	-94.522221	430	70	100	2	0.7	135	122	70	1.7
498	232828	GLASSELL PRODUCTION COMPANY	Rig Supply	32.233333	-94.200277	240	70	10	1	7.0	1,348	847	200	4.2
499	232633	HARLETON OIL & GAS,INC.	Rig Supply	32.183333	-94.18361	260	70	15	1	4.7	898	602	160	3.8
500	232497	ANADARKO E & P cOMPANY, LP	Industrial	32.216666	-94.383333	220	65	85	1	0.8	147	132	100	1.3
501	231777	Griffine, Danny	Domestic	32.223054	-94.442777	400	80	70	2	1.1	220	185	70	2.6
502	230805	TERESA WALKER	Domestic	32.069721	-94.383333	340	25	231	2	0.1	21	26	120	0.2
503	230785	NFR Energy	Rig Supply	32.33361	-94.469999	270	65	75	1	0.9	167	146	70	2.1
504	229868	Classic Operating	Rig Supply	32.015277	-94.051666	160	60	30	1	2.0	385	296	100	3.0
505	229866	Classic Operating	Rig Supply	32.018054	-94.06	240	60	40	1	1.5	289	232	100	2.3

Record ID	Tracking Number	Owner Name	Proposed Use	Lat (NAD83)	Long (NAD83)	Well Depth (ft)	Yield (gpm)	Drawdown (ft)	Well Test Duration (hours)	Specific Capacity (gpm/ft)	Specific Capacity (ft^2/day)	Estimated Transmissivity (ft^2/day)	Saturated Thickness (ft)	Estimated Hydraulic Conductivity (ft/day)
506	229851	Classic Operating	Rig Supply	31.969443	-94.009444	180	80	60	1	1.3	257	210	100	2.1
507	228972	XTO Energy	Rig Supply	32.353333	-94.387221	120	65	10	1	6.5	1,251	796	60	13.3
508	227702	Devon Energy	Rig Supply	32.163333	-94.274999	140	70	68	2	1.0	198	169	80	2.1
509	227701	Devon Energy	Rig Supply	32.048888	-94.437499	320	50	218	2	0.2	44	48	100	0.5
510	227699	Devon Energy	Rig Supply	32.09611	-94.447777	340	20	204	2	0.1	19	23	50	0.5
511	227610	Devon Energy	Rig Supply	31.192221	-94.349721	220	65	154	2	0.4	81	80	100	0.8
512	227606	Devon Energy	Rig Supply	32.098888	-94.463888	420	50	184	2	0.3	52	55	140	0.4
513	227605	Devon Energy	Rig Supply	32.183054	-94.282221	200	70	119	2	0.6	113	106	80	1.3
514	227603	Devon Energy	Rig Supply	32.307222	-94.128888	80	10	46	2	0.2	42	46	55	0.8
515	227602	Devon Energy	Rig Supply	32.067221	-94.361388	280	40	174	2	0.2	44	48	160	0.3
516	227601	Devon Energy	Rig Supply	32.06861	-94.360277	360	15	153	2	0.1	19	23	100	0.2
517	227598	Devon Energy	Rig Supply	32.092499	-94.353055	240	20	118	2	0.2	33	37	120	0.3
518	227596	Devon Energy	Rig Supply	32.340833	-94.074166	160	65	128	2	0.5	98	93	100	0.9
519	227594	Devon Energy	Rig Supply	32.100833	-94.453055	360	50	184	2	0.3	52	55	80	0.7
520	227589	Devon Energy	Rig Supply	32.287499	-94.413055	300	65	158	2	0.4	79	78	100	0.8
521	227588	Devon Energy	Rig Supply	32.116666	-94.395555	220	75	138	2	0.5	105	99	120	0.8
522	227584	Devon Energy	Rig Supply	32.064444	-94.324999	300	50	173	2	0.3	56	58	120	0.5
523	227583	Devon Energy	Rig Supply	32.010277	-94.41861	380	60	168	2	0.4	69	70	160	0.4
524	227569	Devon Energy	Rig Supply	32.163333	-94.292499	180	65	114	2	0.6	110	103	120	0.9
525	227563	Devon Energy	Rig Supply	32.087499	-94.353888	280	15	128	2	0.1	23	27	130	0.2
526	227558	Devon Energy	Rig Supply	32.093888	-94.3575	260	15	113	2	0.1	26	30	160	0.2
527	227556	Devon Energy	Rig Supply	32.078054	-94.353888	240	10	98	2	0.1	20	24	140	0.2
528	227534	Winchester Production	Rig Supply	32.365833	-94.070832	200	70	8	2	8.8	1,684	1,021	100	10.2
529	227317	Brad Griffith	Domestic	32.089999	-94.388333	290	20	68	2	0.3	57	59	50	1.2
530	227313	St. Mary Land & Exp.	Rig Supply	32.057222	-94.206666	190	70	88	2	0.8	153	136	90	1.5
531	227281	Chesapeake Operating	Rig Supply	32.301944	-94.179166	220	80	79	2	1.0	195	167	100	1.7
532	227277	Chesapeake Operating	Rig Supply	32.296666	-94.169999	160	75	78	2	1.0	185	160	80	2.0
533	227273	Devon Energy	Rig Supply	32.092499	-94.274166	200	65	118	2	0.6	106	100	100	1.0
534	227258	Devon Energy	Rig Supply	32.113333	-94.37361	260	55	187	2	0.3	57	59	40	1.5
535	227253	Devon Energy	Rig Supply	32.091666	-94.439444	380	30	244	2	0.1	24	28	100	0.3
536	227240	Devon Energy	Rig Supply	32.14361	-94.29361	180	20	2	2	10.0	1,925	1,142	40	28.6
537	227230	Comstock Oil & Gas	Rig Supply	32.2625	-94.415277	260	75	126	2	0.6	115	107	100	1.1
538	227212	Comstock Oil & Gas	Rig Supply	32.255	-94.437499	280	75	129	2	0.6	112	105	100	1.0
539	227108	Comstock Oil & Gas	Rig Supply	32.237499	-94.503888	400	20	198	2	0.1	19	24	100	0.2
540	227103	Comstock Oil & Gas	Rig Supply	32.264444	-94.497777	460	60	182	2	0.3	63	65	100	0.7
541	227097	Devon Energy	Rig Supply	32.067777	-94.310833	260	40	178	2	0.2	43	47	160	0.3
542	227061	Chesapeake Operating	Rig Supply	32.145833	-94.3125	120	15	68	2	0.2	42	46	80	0.6
543	226267	ANADARKO E & P COMPANY, INC.	Rig Supply	32.148888	-94.396666	260	55	85	1	0.6	125	115	100	1.1
544	226250	ANADARKO E & P COMPANY, INC.	Rig Supply	32.116943	-94.383333	250	70	30	1	2.3	449	336	100	3.4
545	226135	DEVON ENERGY	Rig Supply	32.084444	-94.474166	400	30	273	2	0.1	21	26	120	0.2
546	225382	DEVON ENERGY	Rig Supply	32.169443	-94.291388	80	55	42	2	1.3	252	207	30	6.9
547	224511	Samson	Rig Supply	32.409722	-94.144444	260	120	60	1	2.0	385	296	80	3.7
548	223962	Anadarko E & P Company, LP	Rig Supply	32.116666	-94.4	170	65	20	1	3.3	626	444	90	4.9
549	223941	Anadarko E & E Company, LP	Rig Supply	32.33361	-94.38361	250	90	10	1	9.0	1,733	1,046	100	10.5
550	223734	DEVON ENERGY	Rig Supply	32.074443	-94.233333	160	45	105	2	0.4	83	81	60	1.4
551	223409	Samson Lone Star	Rig Supply	32.057222	-94.234721	200	35	1	1	35.0	6,738	3,272	170	19.2
552	223312	Chesapeake Operating	Rig Supply	32.230554	-94.1025	160	70	20	1	3.5	674	473	100	4.7
553	221405	DEVON ENERGY	Rig Supply	32.073888	-94.232499	95	30	84	2	0.4	69	70	75	0.9
554	221393	DEVON ENERGY	Rig Supply	32.024999	-94.436666	280	65	128	2	0.5	98	93	80	1.2
555	221388	DEVON ENERGY	Rig Supply	32.088333	-94.41861	200	40	147	2	0.3	52	55	60	0.9
556	220458	Mr. Aultman	Domestic	31.989444	-94.256111	270	20	50	2	0.4	77	76	30	2.5
557	220454	Davis, Bill Dan	Domestic	31.993888	-94.182777	61	15	15	2	1.0	193	165	26	6.4
558	220447	Davis, Jimmy	Domestic	32.113611	-94.330832	211	20	40	2	0.5	96	92	25	3.7
559	220442	Stallone, Anthony	Domestic	31.961388	-94.295833	361	35	75	2	0.5	90	87	56	1.6
560	220362	XTO Energy, Inc.	Rig Supply	32.35	-94.45	140	70	40	1	1.8	337	264	60	4.4
561	220361	XTO Energy, Inc.	Rig Supply	32.35	-94.45	150	75	40	1	1.9	361	280	70	4.0
562	219878	Samson Lone Star	Rig Supply	32.057222	-94.234721	220	50	15	1	3.3	642	454	100	4.5
563	219843	Red River Ark-La-Tex Drilling	Rig Supply	32.406111	-94.060277	160	100	40	1	2.5	481	357	90	4.0
564	219340	Anadarko E & P Company, LP	Rig Supply	32.116666	-94.4	140	75	40	1	1.9	361	280	80	3.5
565	218643	DEVON ENERGY	Rig Supply	32.066943	-94.389721	260	40	158	2	0.3	49	52	60	0.9
566	218616	DEVON ENERGY	Rig Supply	32.064444	-94.392499	240	15	120	2	0.1	24	29	60	0.5
567	217310	Artis Cooper	Domestic	32.331943	-94.144721	140	60	60	2	1.0	193	165	60	2.8
568	216816	Anadarko E & P Company, Inc.	Rig Supply	32.066943	-94.183333	90	70	25	1	2.8	539	392	70	5.6
569	216591	Don Holland	Irrigation	32.165277	-94.396666	340	60	90	1	0.7	128	117	100	1.2
570	216589	Classic Operating	Rig Supply	32.015277	-94.088888	240	90	40	1	2.3	433	326	100	3.3
571	216093	Anadarko E & P Company, Inc.	Rig Supply	32.066943	-94.183333	60	60	5	1	12.0	2,310	1,331	45	29.6
572	215463	Anadarko E & P Company, Inc.	Rig Supply	32.116666	-94.383333	120	60	5	1	12.0	2,310	1,331	80	16.6
573	215148	ETS Oilfield Services, LP	Rig Supply	32.28361	-94.35	360	45	85	1	0.5	102	97	120	0.8
574	215135	Anadarko E & P Co., LP	Rig Supply	32.229721	-94.468888	300	70	90	1	0.8	150	134	200	0.7
575	214266	Anadarko E & P company, Inc.	Rig Supply	32.08361	-94.216666	100	60	5	1	12.0	2,310	1,331	85	15.7
576	214242	Anadarko E & P Company, Inc.	Rig Supply	32.13361	-94.38361	260	45	70	1	0.6	124	114	100	1.1
577	212330	Bobby Howard	Rig Supply	32.054444	-94.241944	90	30	32	2	0.9	180	156	30	5.2
578	211545	Anadarko E & P Company, Inc.	Rig Supply	32.13361	-94.366943	230	70	15	1	4.7	898	602	100	6.0
579	211513	Patrick Porter	Domestic	31.984721	-94.437777	263	15	20	4	0.8	144	130	63	2.1
580	211502	Anadarko E & P Company, Inc.	Rig Supply	32.2	-94.416943	280	55	85	1	0.6	125	115	100	1.1
581	211445	FORTSON OIL	Rig Supply	32.081943	-94.516388	380	70	120	2	0.6	112	105	60	1.7
582	210909	Basa Resources	Rig Supply	32.057777	-94.544444	380	100	15	1	6.7	1,283	813	100	8.1
583	210887	Sojitz Energy	Rig Supply	32.088888	-94.52111	380	70	60	1	1.2	225	188	100	1.9
584	210885	Sojitz Energy	Rig Supply	32.088888	-94.52111	380	70	60	1	1.2	225	188	100	1.9
585	210504	Anadarko E & P Company, Inc.	Rig Supply	32.08361	-94.2	120	70	5	1	14.0	2,695	1,515	80	18.9
586	210483	Anadarko E & P Company, Inc.	Rig Supply	32.183333	-94.416666	160	70	10	1	7.0	1,348	847	80	10.6
587	210482	Anadarko E & P Company, Inc.	Rig Supply	32.183333	-94.416943	350	70	15	1	4.7	898	602	100	6.0
588	210446	Anadarko E & P Company, Inc.	Rig Supply	32.2	-94.366943	280	55	85	1	0.6	125	115	100	1.1
589	209278	Anadarko E & P Company, Inc.	Rig Supply	32.016943	-94.366943	400	65	20	1	3.3	626	444	200	2.2
590	208979	Chesapeake Operating	Rig Supply	32.225554	-94.204722	100	50	70	1	0.7	138	124	50	2.5
591	208978	Chesapeake Operating	Rig Supply	32.217777	-94.203611	80	45	20	1	2.3	433	326	45	7.3
592	208829	R. Lacy, Inc.	Rig Supply	32.266943	-94.333333	160	75	30	1	2.5	481	357	100	3.6
593	208516	Anadarko E & P Company, Inc.	Rig Supply	32.200277	-94.366943	200	70	15	1	4.7	898	602	100	6.0
594	208514	Anadarko E & P Company, nc.	Rig Supply	32.166943	-94.366943	160	70	10	1	7.0	1,348	847	80	10.6
595	207607	Smith, Bryan	Domestic	32.069443	-94.446666	230	20	93	1	0.2	41	45	90	0.5
596	207571	Anadarko E & P Company, Inc.,	Rig Supply	32.2	-94.366666	190	80	10	1	8.0	1,540	947	100	9.5
597	207400	Skipper Knight	Domestic	32.194999	-94.2625	44	20	10	2	2.0	385	296	26	11.4
598	207399	Judy Ellis	Domestic	32.2125	-94.251944	38	15	10	3	1.5	289	232	18	12.9
599	207397	Joe Allison	Domestic	32.243055	-94.33611	22	17	8	1	2.1	409	311	12	25.9
600	207396	DCP Midstream	Industrial	32.186666	-94.257222	103	30	30	3	1.0	193	165	32	5.2
601	207391	Blake Weems	Domestic	31.994444	-94.328054	81	10	40	2	0.3	48	52	25	2.1
602	207390	Eric Horn	Domestic	32.06861	-94.358333	349	15	60	4	0.3	48	52	59	0.9
603	207387	Buster Ray Soape	Domestic	32.01861	-94.185277	200	8	130	1	0.1	12	16	40	0.4
604	207222	TEXAS AMERICAN	Rig Supply	32.305833	-94.444166	500	60	230	2	0.3	50	53	260	0.2
605	206732	Anadarko E & P Company, Inc.	Rig Supply	32.183333	-94.416666	160	70	10	1	7.0	1,348	847	80	10.6
606	206348	Anadarko E & P Company, Inc.	Rig Supply	32.15	-94.400277	280	70	10	1	7.0	1,348	847	100	8.5

Record ID	Tracking Number	Owner Name	Proposed Use	Lat (NAD83)	Long (NAD83)	Well Depth (ft)	Yield (gpm)	Drawdown (ft)	Well Test Duration (hours)	Specific Capacity (gpm/ft)	Specific Capacity (ft^2/day)	Estimated Transmissivity (ft^2/day)	Saturated Thickness (ft)	Estimated Hydraulic Conductivity (ft/day)
607	205871	Anadarko E & P Company, Inc.	Rig Supply	32.18361	-94.366943	250	75	10	1	7.5	1,444	897	90	10.0
608	205779	Sojitz Energy	Rig Supply	32.01	-94.509722	440	85	60	1	1.4	273	221	100	2.2
609	205777	Sojitz Energy	Rig Supply	32.009722	-94.510277	440	85	70	1	1.2	234	194	100	1.9
610	205457	Anadarko E & P Company, Inc.	Rig Supply	32.183333	-94.4	220	65	85	1	0.8	147	132	100	1.3
611	205455	Conoco Phillips Company	Rig Supply	32.03361	-94.233333	200	60	80	1	0.8	144	130	80	1.6
612	205449	Anadarko E & P Co., Inc.	Rig Supply	32.15	-94.366666	260	80	10	1	8.0	1,540	947	80	11.8
613	205273	Anadarko E & P Co, Inc.	Rig Supply	32.183333	-94.416943	220	65	85	1	0.8	147	132	100	1.3
614	205235	Classic Operating	Rig Supply	32.13861	-94.512222	440	70	1	1	70.0	13,476	5,857	190	30.8
615	205231	Samson	Rig Supply	32.313055	-94.19111	160	70	15	1	4.7	898	602	100	6.0
616	203238	Anadarko E & P Company, Inc.	Rig Supply	32.133333	-94.3	220	60	20	1	3.0	578	416	100	4.2
617	203138	Anadarko E & P Company, Inc.	Rig Supply	32.166943	-94.366943	140	70	10	1	7.0	1,348	847	80	10.6
618	203137	Anadarko E & P Company, Inc.	Rig Supply	32.166666	-94.416666	200	65	85	1	0.8	147	132	80	1.6
619	203134	Anadarko E & P Company, Inc.	Rig Supply	32.066666	-94.266943	180	75	50	1	1.5	289	232	100	2.3
620	203133	Exxon Mobil Corporation	Rig Supply	32.083333	-94.200277	80	20	30	1	0.7	128	117	40	2.9
621	202753	Rufus Langford	Stock	32.294721	-94.164444	160	80	60	1	1.3	257	210	100	2.1
622	202742	Devon Energy	Rig Supply	32.2125	-94.337221	200	65	89	2	0.7	141	127	110	1.2
623	202741	Devon Energy	Rig Supply	32.063888	-94.237221	220	55	152	2	0.4	70	70	100	0.7
624	202740	Devon Energy	Rig Supply	32.13111	-94.264444	120	70	94	2	0.7	143	129	60	2.1
625	202737	Chesapeake Operating	Rig Supply	32.296666	-94.149166	140	75	78	2	1.0	185	160	60	2.7
626	202732	Chevron Texaco	Rig Supply	32.220832	-94.39361	170	75	77	2	1.0	188	162	100	1.6
627	202731	Chevron Texaco	Rig Supply	32.197777	-94.415833	220	60	134	2	0.4	86	84	100	0.8
628	202405	XTO Energy, Inc.	Rig Supply	32.335555	-94.305	220	75	70	1	1.1	206	175	160	1.1
629	202356	DEVON ENERGY	Rig Supply	32.066111	-94.444444	240	70	107	2	0.7	126	116	50	2.3
630	202352	DEVON ENERGY	Rig Supply	32.176943	-94.335555	200	75	66	2	1.1	219	184	50	3.7
631	202326	A.C. Exploration	Rig Supply	32.096666	-94.505555	300	65	173	2	0.4	72	73	100	0.7
632	202318	Basic Energy	Rig Supply	32.254166	-94.158055	220	20	122	2	0.2	32	36	120	0.3
633	202314	Chevron Texaco	Rig Supply	32.201944	-94.347777	200	75	99	2	0.8	146	131	100	1.3
634	202312	Chevron Texaco	Rig Supply	32.35	-94.437499	240	70	114	2	0.6	118	110	90	1.2
635	202302	Langston Drlg. Co.	Rig Supply	32.150555	-94.539444	320	70	163	2	0.4	83	81	90	0.9
636	202289	Devon Energy	Rig Supply	32.069999	-94.362222	280	45	173	2	0.3	50	53	80	0.7
637	202287	Devon Energy	Rig Supply	32.096666	-94.254722	180	70	73	2	1.0	185	159	60	2.7
638	202286	Devon Energy	Rig Supply	32.087499	-94.424999	320	60	188	2	0.3	61	63	70	0.9
639	202285	Devon Energy	Rig Supply	32.074721	-94.4	340	50	222	2	0.2	43	47	120	0.4
640	202283	Devon Energy	Rig Supply	32.071388	-94.267221	140	70	114	2	0.6	118	110	80	1.4
641	202281	Devon Energy	Rig Supply	32.189444	-94.506111	260	60	128	2	0.5	90	87	240	0.4
642	202279	Devon Energy	Rig Supply	32.069999	-94.287221	140	60	94	2	0.6	123	113	60	1.9
643	201626	Comstock Oil & Gas	Rig Supply	32.263333	-94.423888	260	75	119	2	0.6	121	112	100	1.1
644	201623	Cathy Brown	Domestic	32.07611	-94.380554	280	20	132	2	0.2	29	34	80	0.4
645	201596	Comstock Oil & Gas	Rig Supply	32.244444	-94.32111	60	15	44	2	0.3	66	67	65	1.0
646	201583	Leanne Dennis	Domestic	32.056944	-94.394721	320	20	105	2	0.2	37	41	70	0.6
647	200480	Chesapeake Operating	Rig Supply	32.29861	-94.155833	160	100	1	1	100.0	19,251	7,903	90	87.8
648	200478	Samson	Rig Supply	32.312777	-94.190555	160	60	15	1	4.0	770	529	100	5.3
649	199756	Devon Energy	Rig Supply	32.045833	-94.358333	320	60	184	2	0.3	63	64	70	0.9
650	199754	Devon Energy	Rig Supply	32.041944	-94.356111	260	30	173	2	0.2	33	38	100	0.4
651	199751	Devon Energy	Rig Supply	32.042499	-94.356944	300	50	172	2	0.3	56	58	100	0.6
652	199748	Devon Energy	Rig Supply	32.097499	-94.398055	340	60	224	2	0.3	52	55	100	0.5
653	199746	Devon Energy	Rig Supply	32.056111	-94.374166	360	35	240	2	0.1	28	33	100	0.3
654	199703	Devon Energy	Rig Supply	32.285277	-94.137499	104	75	78	2	1.0	185	160	80	2.0
655	199702	Devon Energy	Rig Supply	32.175554	-94.325554	200	70	106	2	0.7	127	117	100	1.2
656	199699	Devon Energy	Rig Supply	32.324721	-94.122777	180	50	144	2	0.3	67	68	20	3.4
657	199687	Maximus Operating	Rig Supply	31.983054	-94.078888	230	10	100	2	0.1	19	24	100	0.2
658	199660	Anadarko E & P Company, Inc.	Rig Supply	32.150277	-94.416943	340	65	10	1	6.5	1,251	796	100	8.0
659	199659	XTO Energy, Inc.	Rig Supply	32.133333	-94.316943	90	60	5	1	12.0	2,310	1,331	75	17.8
660	199337	A.C. Exploration	Rig Supply	32.151388	-94.511666	420	70	200	2	0.4	67	68	130	0.5
661	199327	G & A Drilling Company	Rig Supply	32.101388	-94.520554	410	75	156	2	0.5	93	89	70	1.3
662	199323	Valance Operating	Rig Supply	32.24361	-94.39111	360	70	173	2	0.4	78	77	120	0.6
663	199321	Devon Energy	Rig Supply	32.197777	-94.331943	160	75	131	2	0.6	110	103	60	1.7
664	199319	Devon Energy	Rig Supply	32.153611	-94.264166	110	80	52	2	1.5	296	237	70	3.4
665	199091	Katy Resources ETX, LLC	Rig Supply	32.100277	-94.516943	350	65	15	1	4.3	834	566	150	3.8
666	198800	Anadarko E & P Company, Inc.	Rig Supply	32	-94.366943	300	60	87	1	0.7	133	121	100	1.2
667	198777	Anadarko E & P Company	Rig Supply	32.166943	-94.4	240	65	85	1	0.8	147	132	80	1.6
668	197677	Chesapeake Operating	Rig Supply	32.16861	-94.066943	140	65	10	1	6.5	1,251	796	100	8.0
669	197534	Arkla Tex Energy	Rig Supply	32.092499	-94.523054	400	75	174	2	0.4	83	81	80	1.0
670	197531	Chesapeake Operating	Rig Supply	32.120277	-94.385277	180	80	99	2	0.8	156	138	70	2.0
671	197529	Devon Energy	Rig Supply	32.065555	-94.407777	300	60	3	2	20.0	3,850	2,045	100	20.4
672	197307	Anadarko E & P Company, Inc.	Rig Supply	32.08361	-94.316666	240	50	60	1	0.8	160	142	100	1.4
673	197270	Anadarko E & P Company, Inc.	Rig Supply	32.200277	-94.383333	260	55	85	1	0.6	125	115	100	1.1
674	196481	BP America	Rig Supply	32.200277	-94.266943	120	65	5	1	13.0	2,503	1,424	100	14.2
675	196185	Chesapeake Operating	Rig Supply	32.136666	-94.09361	280	100	15	1	6.7	1,283	813	100	8.1
676	196144	Anadarko E & P Company, inc.	Rig Supply	32.1	-94.2	140	70	10	1	7.0	1,348	847	100	8.5
677	196016	Anadarko E & P Company, Inc.	Rig Supply	32.183333	-94.383333	200	65	85	1	0.8	147	132	100	1.3
678	196003	Anadarko E & P Company, Inc.	Rig Supply	32.200277	-94.38361	280	55	85	1	0.6	125	115	100	1.1
679	195479	Sojitz Energy	Rig Supply	32.026666	-94.530277	420	70	60	1	1.2	225	188	100	1.9
680	195477	Sojitz Energy	Rig Supply	32.026666	-94.530277	420	70	40	1	1.8	337	264	100	2.6
681	194270	Anadarko E & P Company Inc	Rig Supply	32.145555	-94.2125	150	75	40	1	1.9	361	280	90	3.1
682	194261	ConocoPhillips	Rig Supply	32.061111	-94.239166	200	65	85	1	0.8	147	132	100	1.3
683	194254	Anadarko E & P Company Inc	Rig Supply	32.149444	-94.404722	260	55	85	1	0.6	125	115	80	1.4
684	194252	Anadarko E & P Company Inc	Rig Supply	32.023054	-94.297777	280	70	25	1	2.8	539	392	120	3.3
685	194246	R Lacy Inc	Rig Supply	32.259444	-94.336388	140	80	10	1	8.0	1,540	947	100	9.5
686	194238	Anadarko E & P Company Inc	Rig Supply	32.034444	-94.292499	270	70	20	1	3.5	674	473	150	3.2
687	193581	Dan Goss - Beck	Domestic	32.044444	-94.305555	260	25	127	1	0.2	38	42	115	0.4
688	193000	PennzEnergy	Industrial	32.34861	-94.091944	90	80	56	1	1.4	275	223	40	5.6
689	191961	Comstock Oil & Gas	Rig Supply	32.256111	-94.501944	400	75	162	2	0.5	89	86	120	0.7
690	191956	Comstock Oil & Gas	Rig Supply	32.229999	-94.519721	460	70	177	2	0.4	76	76	120	0.6
691	191951	Devon Energy	Rig Supply	32.097777	-94.453888	400	25	196	2	0.1	25	29	100	0.3
692	191948	Devon Energy	Rig Supply	32.216666	-94.316666	140	75	94	2	0.8	154	137	80	1.7
693	191947	Devon Energy	Rig Supply	32.06861	-94.308333	320	50	212	2	0.2	45	49	160	0.3
694	191944	Devon Energy	Rig Supply	32.16	-94.29611	160	75	89	2	0.8	162	143	90	1.6
695	191942	Devon Energy	Rig Supply	32.064444	-94.397777	400	55	124	2	0.4	85	83	100	0.8
696	191939	Langston Drlg. Co.	Rig Supply	32.045833	-94.070832	140	75	82	2	0.9	176	153	80	1.9
697	191756	Devon Energy	Rig Supply	32.196944	-94.331943	160	75	131	2	0.6	110	103	60	1.7
698	191734	XTO ENERGY	Rig Supply	32.24111	-94.200555	245	50	10	1	5.0	963	638	60	10.6
699	191733	XTO ENERGY	Rig Supply	32.258611	-94.105	100	60	10	1	6.0	1,155	744	60	12.4
700	191732	XTO ENERGY	Rig Supply	32.242499	-94.2	285	60	10	1	6.0	1,155	744	60	12.4
701	191354	Newfield Exp.	Rig Supply	32.195833	-94.507222	158	60	1	1	60.0	11,551	5,146	63	81.7
702	190698	Anadarko E & P Company Inc	Rig Supply	32.19111	-94.491666	210	65	85	1	0.8	147	132	70	1.9
703	190525	Andrea Webb	Domestic	32.02111	-94.357777	190	30	20	2	1.5	289	232	20	11.6
704	190515	XTO ENERGY	Rig Supply	32.271666	-94.119443	70	40	10	1	4.0	770	529	40	13.2
705	190509	XTO ENERGY	Rig Supply	32.247221	-94.125832	55	40	10	1	4.0	770	529	20	26.5
706	190498	XTO ENERGY	Rig Supply	32.247221	-94.125832	80	40	10	1	4.0	770	529	60	8.8
707	190494	XTO ENERGY	Rig Supply	32.271666	-94.132221	60	20	10	1	2.0	385	296	20	14.8

Record ID	Tracking Number	Owner Name	Proposed Use	Lat (NAD83)	Long (NAD83)	Well Depth (ft)	Yield (gpm)	Drawdown (ft)	Well Test Duration (hours)	Specific Capacity (gpm/ft)	Specific Capacity (ft^2/day)	Estimated Transmissivity (ft^2/day)	Saturated Thickness (ft)	Estimated Hydraulic Conductivity (ft/day)
708	190487	XTO ENERGY	Rig Supply	32.298888	-94.043333	160	70	10	1	7.0	1,348	847	60	14.1
709	190310	XTO Energy, Inc.	Rig Supply	32.254444	-94.494721	320	70	20	1	3.5	674	473	120	3.9
710	190283	XTO ENERGY	Rig Supply	32.271666	-94.119443	55	35	10	1	3.5	674	473	40	11.8
711	190178	ConocoPhillips	Rig Supply	32.034721	-94.310277	150	70	10	1	7.0	1,348	847	110	7.7
712	190169	Anadarko E & P Company Inc	Rig Supply	32.210277	-94.501666	200	65	85	1	0.8	147	132	80	1.6
713	189926	Comstock Oil & Gas	Industrial	32.245833	-94.498888	420	60	110	1	0.5	105	99	160	0.6
714	189924	Anadarko E&P Co., LP	Industrial	32.167777	-94.389166	340	65	85	1	0.8	147	132	240	0.5
715	189503	Chesapeake Operating	Rig Supply	32.315277	-94.214166	160	60	1	1	60.0	11,551	5,146	110	46.8
716	189486	Chesapeake Operating	Rig Supply	32.315	-94.214722	160	60	40	1	1.5	289	232	80	2.9
717	189039	Anadarko E & P Co., LP	Rig Supply	32.010555	-94.369443	320	70	100	1	0.7	135	122	160	0.8
718	188793	BEAR CREEK SERVICES	Industrial	32.043333	-94.076388	160	75	43	2	1.7	336	263	60	4.4
719	187903	ConocoPhillips	Rig Supply	32.027777	-94.29611	220	60	30	1	2.0	385	296	100	3.0
720	187739	K & L CONTRACTORS	Rig Supply	32.221943	-94.043055	200	50	170	2	0.3	57	59	60	1.0
721	187332	Anadarko E & P Company Inc	Rig Supply	32.1625	-94.418888	160	70	15	1	4.7	898	602	80	7.5
722	186898	Ezell Allison	Domestic	32.067777	-94.492221	120	20	40	2	0.5	96	92	20	4.6
723	186896	Markis Bowlin	Domestic	31.990833	-94.258055	260	15	40	2	0.4	72	72	20	3.6
724	186835	Anadarko E & P Company Inc	Rig Supply	32.187221	-94.3525	230	80	10	1	8.0	1,540	947	100	9.5
725	186804	Classic Operating	Rig Supply	32	-94.058055	210	100	15	1	6.7	1,283	813	90	9.0
726	186560	Cabot Oil & Gas	Rig Supply	32.000555	-94.335277	302	60	20	3	3.0	578	416	127	3.3
727	186385	ConocoPhillips	Rig Supply	32.060277	-94.285555	180	80	10	1	8.0	1,540	947	115	8.2
728	185884	Classic Energy	Rig Supply	32.07611	-94.469443	120	50	83	2	0.6	116	108	60	1.8
729	185876	Valence Operating	Rig Supply	32.272777	-94.395555	300	70	129	2	0.5	104	99	80	1.2
730	185875	A.C. Exploration	Rig Supply	32.161944	-94.511944	470	75	84	2	0.9	172	150	80	1.9
731	185871	Classic Energy	Rig Supply	32.139166	-94.384999	240	70	129	2	0.5	104	99	90	1.1
732	185868	Chevron Texaco	Rig Supply	32.104444	-94.48361	140	75	87	2	0.9	166	146	60	2.4
733	185863	Classic Energy	Rig Supply	32.141388	-94.369443	90	75	51	2	1.5	283	228	50	4.6
734	185860	Chevron Texaco	Rig Supply	32.256666	-94.465277	460	80	176	2	0.5	88	85	100	0.9
735	185854	Martex Drilling Co.	Rig Supply	32.071388	-94.229443	110	60	75	2	0.8	154	137	60	2.3
736	185850	Devon Energy	Rig Supply	32.167221	-94.287777	180	75	71	2	1.1	203	173	80	2.2
737	185847	Devon Energy	Rig Supply	32.150277	-94.235555	140	65	69	2	0.9	181	157	60	2.6
738	185845	Devon Energy	Rig Supply	32.073888	-94.379443	320	30	198	2	0.2	29	34	120	0.3
739	185843	Devon Energy	Rig Supply	32.065277	-94.381943	310	60	218	2	0.3	53	56	70	0.8
740	185841	Devon Energy	Rig Supply	32.087777	-94.366943	260	70	138	2	0.5	98	93	70	1.3
741	185840	Devon Energy	Rig Supply	32.078054	-94.376388	335	75	154	2	0.5	94	90	105	0.9
742	185839	Devon Energy	Rig Supply	32.060555	-94.380277	300	75	173	2	0.4	83	82	100	0.8
743	185838	Devon Energy	Rig Supply	32.073054	-94.386666	280	35	188	2	0.2	36	40	80	0.5
744	185835	Devon Energy	Rig Supply	32.07611	-94.361944	140	65	93	2	0.7	135	122	50	2.4
745	185834	Devon Energy	Rig Supply	32.163611	-94.295277	160	70	78	2	0.9	173	151	60	2.5
746	185830	Devon Energy	Rig Supply	32.111111	-94.364444	260	15	120	2	0.1	24	29	80	0.4
747	185824	Devon Energy	Rig Supply	32.105277	-94.413611	240	65	138	2	0.5	91	88	80	1.1
748	185001	Anadarko E & P Co., LP	Rig Supply	32.044444	-94.289166	400	60	100	1	0.6	116	108	320	0.3
749	184979	XTO Energy	Rig Supply	32.269443	-94.188055	240	20	10	1	2.0	385	296	230	1.3
750	184978	XTO Energy	Rig Supply	32.269443	-94.188055	120	30	10	1	3.0	578	416	110	3.8
751	184206	Camterra Resources	Rig Supply	32.249721	-94.553888	440	60	178	2	0.3	65	66	140	0.5
752	184199	Comstock Oil & Gas	Rig Supply	32.241666	-94.516388	440	75	169	2	0.4	85	83	160	0.5
753	184195	Devon Energy	Rig Supply	32.191388	-94.295833	120	70	78	2	0.9	173	151	70	2.2
754	184193	Devon Energy	Rig Supply	32.174721	-94.295833	220	70	59	2	1.2	228	191	60	3.2
755	184188	Devon Energy	Rig Supply	32.051944	-94.4	300	40	204	2	0.2	38	42	100	0.4
756	184186	Devon Energy	Rig Supply	32.069999	-94.411388	160	60	102	2	0.6	113	106	80	1.3
757	184183	Devon Energy	Rig Supply	32.314444	-94.115555	90	70	53	2	1.3	254	209	60	3.5
758	184182	Devon Energy	Rig Supply	32.177777	-94.316388	180	75	89	2	0.8	162	143	80	1.8
759	184176	Devon Energy	Rig Supply	32.065555	-94.410555	330	50	162	2	0.3	59	62	130	0.5
760	184174	Devon Energy	Rig Supply	32.060277	-94.395833	330	60	156	2	0.4	74	74	130	0.6
761	184172	Devon Energy	Rig Supply	32.070554	-94.412222	170	65	119	2	0.5	105	99	90	1.1
762	184170	Devon Energy	Rig Supply	32.072777	-94.412222	340	25	228	2	0.1	21	26	140	0.2
763	184169	Devon Energy	Rig Supply	32.065	-94.411666	320	55	192	2	0.3	55	58	120	0.5
764	184166	Devon Energy	Rig Supply	32.106944	-94.435277	150	70	66	2	1.1	204	173	70	2.5
765	184152	Devon Energy	Rig Supply	32.058333	-94.379166	320	20	213	2	0.1	18	23	80	0.3
766	184138	Debra McMillian	Domestic	32.06861	-94.415277	260	30	152	2	0.2	38	42	70	0.6
767	184098	Mr. Ray	Domestic	32.143333	-94.301388	80	60	10	1	6.0	1,155	744	45	16.5
768	183999	Anadarko E & P Company Inc	Rig Supply	32.069166	-94.278332	120	60	10	1	6.0	1,155	744	100	7.4
769	183996	Conoco Phillips	Rig Supply	32.026943	-94.363055	250	50	15	1	3.3	642	454	110	4.1
770	183754	Anadarko E & P Company Inc	Rig Supply	32.034166	-94.367777	300	60	87	1	0.7	133	121	10	12.1
771	183751	Anadarko E & P Company Inc	Rig Supply	32.139999	-94.399166	280	55	85	1	0.6	125	115	100	1.1
772	183735	BP America c/o Brammer Engineering	Rig Supply	32.208888	-94.273888	120	70	15	1	4.7	898	602	80	7.5
773	183710	Anadarko E & P Company Inc	Rig Supply	32.142499	-94.389721	180	60	10	1	6.0	1,155	744	110	6.8
774	183705	Anadarko E & P Company Inc	Rig Supply	32.184166	-94.365833	180	70	10	1	7.0	1,348	847	100	8.5
775	182844	Pioneer Drilling	Industrial	32.026666	-94.518888	220	70	65	1	1.1	207	176	210	0.8
776	182487	ConocoPhillips	Rig Supply	32.046388	-94.305555	130	60	10	1	6.0	1,155	744	90	8.3
777	181940	Goodrich Petroleum	Industrial	32.267221	-94.531666	220	65	60	1	1.1	209	177	160	1.1
778	180883	Terrie King	Domestic	31.994721	-94.215833	90	10	20	20	0.5	96	92	20	4.6
779	180859	DEVON ENERGY	Rig Supply	32.340555	-94.057222	300	80	64	2	1.3	241	199	150	1.3
780	180857	C & S SUPPLY	Industrial	32.361666	-94.065555	220	70	165	2	0.4	82	80	40	2.0
781	180340	Anadarko E & P Co., LP	Industrial	32.135277	-94.398055	240	70	80	1	0.9	168	148	100	1.5
782	179915	XTO Energy	Rig Supply	32.236388	-94.093888	160	50	1	1	50.0	9,626	4,415	110	40.1
783	179899	Chesapeake Operating	Rig Supply	32.210833	-94.04611	180	60	15	1	4.0	770	529	105	5.0
784	179758	Shaon Chhor	Domestic	32.147777	-94.16861	203	20	60	2	0.3	64	66	40	1.6
785	179750	Eddie Pride	Domestic	32.311944	-94.422777	333	40	40	2	1.0	193	165	43	3.8
786	179738	Bobby Pauler	Domestic	32.071943	-94.464444	240	20	90	2	0.2	43	47	23	2.0
787	179577	CHEVRON TEXACO	Rig Supply	32.224999	-94.422777	500	75	142	2	0.5	102	97	120	0.8
788	179576	Bobby Pauler	Domestic	32.07111	-94.466666	350	20	60	3	0.3	64	66	37	1.8
789	179562	1st. Methodist Church	Irrigation	32.151944	-94.33861	265	72	50	3	1.4	277	224	37	6.1
790	179543	Wayne Chappel	Domestic	32.13611	-94.404166	323	30	90	3	0.3	64	66	43	1.5
791	179534	Danny Porter	Domestic	32.151944	-94.156111	190	15	40	2	0.4	72	72	30	2.4
792	179527	Jerry Hudson	Stock	32.094721	-94.287221	230	25	60	2	0.4	80	79	25	3.2
793	179501	Smokey Smith	Domestic	32.132499	-94.415277	260	5	70	2	0.1	14	18	53	0.3
794	179490	Tiffin Stillwell	Domestic	32.059722	-94.217499	205	10	80	2	0.1	24	29	30	1.0
795	179482	Ronnie Porter	Stock	31.97111	-94.439444	262	25	40	3	0.6	120	111	32	3.5
796	179478	Ronnie Porter	Stock	31.972777	-94.439444	272	60	40	2	1.5	289	232	38	6.1
797	179343	Casey Coligan	Domestic	32.004444	-94.374443	312	20	40	2	0.5	96	92	27	3.4
798	179268	Anadarko E & P Company Inc	Rig Supply	32.215833	-94.391944	190	60	15	1	4.0	770	529	100	5.3
799	179123	Pioneer Drilling	Industrial	32.065	-94.508611	340	60	75	1	0.8	154	137	240	0.6
800	177749	Anadarko E & P Company Inc	Rig Supply	32.124166	-94.4025	240	60	12	1	5.0	963	638	100	6.4
801	177534	Anadarko E & P Company Inc	Rig Supply	32.148888	-94.411944	160	75	40	1	1.9	361	280	80	3.5
802	176853	Anadarko E & P Company Inc	Rig Supply	32.044166	-94.289999	240	65	85	1	0.8	147	132	100	1.3
803	176425	BP America c/o Brammer Engineering	Rig Supply	32.113611	-94.431666	280	70	20	1	3.5	674	473	100	4.7
804	176159	Golden Gate Exp.	Rig Supply	32.347777	-94.089444	170	50	63	2	0.8	153	136	70	1.9
805	176157	Classic Operating	Rig Supply	32.249166	-94.515	460	70	1	1	70.0	13,476	5,857	90	65.1
806	176152	Devon Energy	Rig Supply	32.16861	-94.28111	180	70	112	2	0.6	120	111	80	1.4
807	176144	Devon Energy	Rig Supply	32.19361	-94.3	150	80	112	2	0.7	138	124	90	1.4
808	176143	Devon Energy	Rig Supply	32.187499	-94.304166	100	80	54	2	1.5	285	230	60	3.8

Record ID	Tracking Number	Owner Name	Proposed Use	Lat (NAD83)	Long (NAD83)	Well Depth (ft)	Yield (gpm)	Drawdown (ft)	Well Test Duration (hours)	Specific Capacity (gpm/ft)	Specific Capacity (ft^2/day)	Estimated Transmissivity (ft^2/day)	Saturated Thickness (ft)	Estimated Hydraulic Conductivity (ft/day)
809	176138	Devon Energy Production	Rig Supply	32.260277	-94.222777	260	50	164	2	0.3	59	61	60	1.0
810	176137	Devon Energy	Rig Supply	32.170832	-94.276943	140	75	73	2	1.0	198	169	60	2.8
811	176125	Energy Drlg.	Rig Supply	32.274721	-94.078888	150	70	114	2	0.6	118	110	60	1.8
812	175946	Acts Baptist Church	Domestic	32.004166	-94.479999	343	10	40	6	0.3	48	52	60	0.9
813	175519	Chesapeake Operating	Rig Supply	32.145277	-94.300833	140	70	64	2	1.1	211	178	70	2.5
814	175516	Chesapeake Operating	Rig Supply	32.114444	-94.461944	340	60	163	2	0.4	71	71	100	0.7
815	175481	XTO Energy, Inc.	Rig Supply	32.22361	-94.098888	160	75	40	1	1.9	361	280	80	3.5
816	175196	Chevron E & P	Rig Supply	32.178054	-94.132221	160	75	40	1	1.9	361	280	80	3.5
817	174890	Classic Operating	Rig Supply	32.2575	-94.52611	340	60	40	1	1.5	289	232	100	2.3
818	174873	Devon Energy	Rig Supply	32.061944	-94.387499	320	50	212	2	0.2	45	49	180	0.3
819	174863	Devon Energy	Rig Supply	32.053055	-94.399166	300	50	202	2	0.2	48	51	70	0.7
820	174860	Devon Energy	Rig Supply	32.190555	-94.324999	240	40	158	2	0.3	49	52	70	0.7
821	174611	Devon Energy	Rig Supply	32.151944	-94.290277	180	60	110	2	0.5	105	99	100	1.0
822	174609	Devon Energy	Rig Supply	32.09111	-94.4525	340	60	193	2	0.3	60	62	100	0.6
823	174608	Devon Energy	Rig Supply	32.170832	-94.304444	180	75	89	2	0.8	162	143	60	2.4
824	173485	Anadarko - Chris Sparks	Rig Supply	32.101666	-94.278888	200	60	10	1	6.0	1,155	744	100	7.4
825	173481	Anadarko - Chris Sparks	Rig Supply	32.105555	-94.211666	120	65	30	1	2.2	417	316	60	5.3
826	173437	Anadarko - Chris Sparks	Rig Supply	32.105555	-94.211666	420	50	155	1	0.3	62	64	80	0.8
827	172708	Chesapeake	Rig Supply	32.114444	-94.508333	420	75	188	2	0.4	77	76	100	0.8
828	172707	Wil-Drill	Rig Supply	32.022777	-94.508333	310	60	164	2	0.4	70	71	70	1.0
829	172704	Chevron Texaco	Rig Supply	32.299721	-94.435277	480	75	148	2	0.5	98	93	90	1.0
830	172699	Winchester Production	Rig Supply	32.283054	-94.074999	120	40	71	2	0.6	108	102	60	1.7
831	172696	Debbie Patrick	Domestic	32.207222	-94.279999	165	90	73	2	1.2	237	197	100	2.0
832	172690	Devon Energy	Rig Supply	32.149721	-94.24361	140	75	64	2	1.2	226	189	60	3.1
833	172688	Devon Energy	Rig Supply	32.121666	-94.288055	160	70	104	2	0.7	130	118	60	2.0
834	172686	Devon Energy	Rig Supply	32.258055	-94.241388	120	75	62	2	1.2	233	194	50	3.9
835	172684	Devon Energy	Rig Supply	32.070554	-94.3575	320	35	228	2	0.2	30	34	100	0.3
836	172682	Devon Energy	Rig Supply	32.066388	-94.370554	300	60	165	2	0.4	70	71	70	1.0
837	172680	Devon Energy	Rig Supply	32.168054	-94.304166	215	70	94	2	0.7	143	129	55	2.3
838	172677	Devon Energy	Rig Supply	32.064444	-94.353888	300	65	154	2	0.4	81	80	110	0.7
839	172665	Comstock Oil & Gas	Rig Supply	32.201944	-94.510277	240	75	174	2	0.4	83	81	90	0.9
840	172661	Comstock Oil & Gas	Rig Supply	32.203888	-94.508333	220	75	122	2	0.6	118	110	120	0.9
841	172650	Comstock Oil & Gas	Rig Supply	32.198888	-94.506111	280	70	138	2	0.5	98	93	160	0.6
842	172635	Newfield Exp.	Rig Supply	32.177777	-94.509722	192	65	1	1	65.0	12,513	5,504	67	82.1
843	171688	Conoco Phillips	Rig Supply	32.033888	-94.357777	260	60	80	1	0.8	144	130	100	1.3
844	171685	Anadarko - Paul Sparks	Rig Supply	32.153888	-94.337777	120	70	30	1	2.3	449	336	80	4.2
845	171641	Anadarko - Chris Sparks	Rig Supply	32.141388	-94.479721	240	70	85	1	0.8	159	140	100	1.4
846	171620	Anadarko - Chris Sparks	Rig Supply	32.179721	-94.358055	130	60	40	1	1.5	289	232	100	2.3
847	171419	DEVON ENERGY	Rig Supply	32.101111	-94.416943	360	60	190	2	0.3	61	63	60	1.0
848	171345	Classic Operating	Rig Supply	32.13111	-94.535277	440	70	1	1	70.0	13,476	5,857	100	58.6
849	170585	Allison, Conrad	Domestic	32.164444	-94.38111	351	60	80	3	0.8	144	130	37	3.5
850	170582	Van Winkle, Billy	Domestic	32.203611	-94.310277	117	40	30	3	1.3	257	210	32	6.6
851	170573	Midstream, Marlin	Domestic	32.191388	-94.267777	33	15	10	3	1.5	289	232	18	12.9
852	170567	Crump, Phillip	Domestic	32.174443	-94.287777	44	20	15	3	1.3	257	210	19	11.1
853	170561	Crump, Phillip	Domestic	32.174443	-94.287777	150	25	25	3	1.0	193	165	19	8.7
854	170554	Atkins, Dan	Domestic	32.318054	-94.160277	111	25	40	2	0.6	120	111	36	3.1
855	170542	Lawless, Joe	Domestic	32.32611	-94.132777	112	30	30	3	1.0	193	165	29	5.7
856	170225	Anadarko - Chris Sparks	Rig Supply	32.065	-94.217221	110	60	10	1	6.0	1,155	744	290	2.6
857	170222	Anadarko - Chris Sparks	Rig Supply	32.099166	-94.304444	300	60	87	1	0.7	133	121	100	1.2
858	170204	Anadarko - Chris Sparks	Rig Supply	32.107222	-94.41	120	60	10	1	6.0	1,155	744	80	9.3
859	170203	Anadarko - Chris Sparks	Rig Supply	32.216666	-94.477499	140	60	10	1	6.0	1,155	744	100	7.4
860	170057	DEVON ENERGY	Domestic	32.077221	-94.394166	280	30	108	2	0.3	53	56	40	1.4
861	170056	DEVON ENERGY	Rig Supply	32.074166	-94.340833	260	70	115	2	0.6	117	109	40	2.7
862	170055	DEVON ENERGY	Domestic	32.069721	-94.386666	140	10	80	2	0.1	24	29	60	0.5
863	169405	DEVON ENERGY	Rig Supply	31.625832	-94.27111	340	60	8	2	7.5	1,444	897	80	11.2
864	168994	Anadarko - Paul Sparks	Rig Supply	32.087221	-94.282499	220	65	85	1	0.8	147	132	80	1.6
865	168993	Anadarko - Paul Sparks	Rig Supply	32.231943	-94.466111	300	60	87	1	0.7	133	121	80	1.5
866	168979	R. Lacy Inc.	Rig Supply	32.270832	-94.394721	300	65	70	1	0.9	179	155	100	1.6
867	168299	PATARA OIL & GAS	Rig Supply	32.1625	-94.556944	320	70	70	1	1.0	193	165	90	1.8
868	168255	DEVON ENERGY	Rig Supply	32.317777	-94.132221	100	75	4	2	18.8	3,610	1,937	80	24.2
869	167719	Anadarko - Paul Sparks	Rig Supply	32.153333	-94.513611	300	60	87	1	0.7	133	121	60	2.0
870	167662	Anadarko - Chris Sparks	Rig Supply	32.096666	-94.246388	120	60	10	1	6.0	1,155	744	108	6.9
871	167630	PATARA OIL & GAS	Rig Supply	32.15	-94.552222	230	65	70	1	0.9	179	155	140	1.1
872	167363	Chinn Exploration	Rig Supply	32.246944	-94.461944	360	50	10	1	5.0	963	638	105	6.1
873	166934	Conoco Phillips	Rig Supply	32.051944	-94.293888	100	80	20	1	4.0	770	529	70	7.6
874	166577	DEVON ENERGY	Rig Supply	32.061111	-94.326666	420	80	100	2	0.8	154	137	70	2.0
875	166306	Sims, James	Domestic	31.937777	-94.343333	258	15	60	4	0.3	48	52	40	1.3
876	165725	Anadarko - Chris Sparks	Rig Supply	32.030277	-94.384721	320	70	50	1	1.4	270	219	180	1.2
877	165495	Comstock Oil and Gas	Rig Supply	32.266388	-94.491944	440	60	196	2	0.3	59	61	100	0.6
878	165491	Comstock Oil and Gas	Rig Supply	32.241944	-94.494166	460	60	202	2	0.3	57	60	160	0.4
879	165490	Comstock Oil and Gas	Rig Supply	32.245833	-94.495555	460	45	202	2	0.2	43	47	180	0.3
880	165488	Devon Energy	Rig Supply	32.104166	-94.372777	280	55	184	2	0.3	58	60	100	0.6
881	165468	Devon Energy	Rig Supply	32.066943	-94.229721	120	20	88	2	0.2	44	48	90	0.5
882	165466	Devon Energy	Rig Supply	32.087499	-94.47861	360	20	230	2	0.1	17	21	150	0.1
883	165465	Devon Energy	Rig Supply	32.14361	-94.217499	120	35	80	2	0.4	84	82	80	1.0
884	165462	Devon Energy	Rig Supply	32.14861	-94.216943	220	20	168	2	0.1	23	28	100	0.3
885	165461	Devon Energy	Rig Supply	32.09361	-94.321666	180	70	114	2	0.6	118	110	100	1.1
886	165460	Devon Energy	Rig Supply	32.108333	-94.366388	240	60	168	2	0.4	69	70	90	0.8
887	165451	Devon Energy	Rig Supply	32.054166	-94.367777	380	55	188	2	0.3	56	59	80	0.7
888	165444	Devon Energy	Rig Supply	32.179443	-94.5125	300	70	162	2	0.4	83	82	100	0.8
889	165439	Chesapeake Operating	Rig Supply	32.301111	-94.179166	220	75	89	2	0.8	162	143	120	1.2
890	165430	Preston Exploration	Rig Supply	32.112222	-94.503888	420	80	1	1	80.0	15,401	6,552	90	72.8
891	165380	Anadarko - Chris Sparks	Rig Supply	32.018332	-94.388888	320	80	50	1	1.6	308	245	180	1.4
892	165254	Anadarko - Chris Sparks	Rig Supply	32.189999	-94.389166	250	60	10	1	6.0	1,155	744	100	7.4
893	164734	Anadarko - Paul Sparks	Rig Supply	32.164166	-94.189166	200	65	85	1	0.8	147	132	80	1.6
894	164725	R. Lacy Inc.	Rig Supply	32.273888	-94.398333	280	60	15	1	4.0	770	529	100	5.3
895	163727	DEVON ENERGY	Rig Supply	32.21	-94.351944	220	65	60	2	1.1	209	177	100	1.8
896	163714	Devon Energy	Rig Supply	32.159722	-94.279999	130	70	73	2	1.0	185	159	40	4.0
897	163710	Devon Energy	Rig Supply	32.070554	-94.356944	360	70	173	2	0.4	78	77	140	0.6
898	163708	Devon Energy	Rig Supply	32.067221	-94.372777	320	60	194	2	0.3	60	62	100	0.6
899	163705	Wynn Crosby	Rig Supply	32.058055	-94.574166	360	80	185	2	0.4	83	82	70	1.2
900	163694	Conoco Phillips	Rig Supply	32.043055	-94.292221	200	60	10	1	6.0	1,155	744	140	5.3
901	163544	R Lacy Inc	Rig Supply	32.267499	-94.290833	120	70	10	1	7.0	1,348	847	80	10.6
902	163241	Hunt Petroleum	Industrial	32.329999	-94.301111	180	70	50	1	1.4	270	219	145	1.5
903	163238	Pioneer Drilling	Industrial	32.017221	-94.497221	220	70	70	1	1.0	193	165	40	4.1
904	163183	Winchester Production	Rig Supply	32.229166	-94.058333	120	25	89	2	0.3	54	57	40	1.4
905	163182	Wynn Crosby Energy	Rig Supply	32.058055	-94.49361	320	70	164	2	0.4	82	81	100	0.8
906	163178	Devon Energy Prod	Rig Supply	32.151944	-94.3	160	60	117	2	0.5	99	94	100	0.9
907	163175	Chevron Texaco	Rig Supply	32.106111	-94.478054	460	15	57	1	0.3	51	54	120	0.4
908	163169	Devon Energy	Rig Supply	32.185277	-94.507777	280	90	140	2	0.6	124	114	140	0.8
909	163075	Anadarko - Chris Sparks	Rig Supply	32.189721	-94.47611	140	75	40	1	1.9	361	280	60	4.7

Record ID	Tracking Number	Owner Name	Proposed Use	Lat (NAD83)	Long (NAD83)	Well Depth (ft)	Yield (gpm)	Drawdown (ft)	Well Test Duration (hours)	Specific Capacity (gpm/ft)	Specific Capacity (ft^2/day)	Estimated Transmissivity (ft^2/day)	Saturated Thickness (ft)	Estimated Hydraulic Conductivity (ft/day)
910	162696	Devon Energy	Rig Supply	32.074721	-94.378888	280	70	138	2	0.5	98	93	80	1.2
911	162693	Devon Energy	Rig Supply	32.070554	-94.356388	260	30	168	2	0.2	34	39	80	0.5
912	162678	Devon Energy	Rig Supply	32.077499	-94.385833	340	60	180	2	0.3	64	66	50	1.3
913	162308	Devon Energy	Rig Supply	32.072777	-94.4	240	60	128	2	0.5	90	87	100	0.9
914	162130	Patara Oil & Gas	Rig Supply	32.134721	-94.53861	360	60	40	1	1.5	289	232	200	1.2
915	161890	Chesapeake	Rig Supply	32.006944	-94.39861	340	70	1	1	70.0	13,476	5,857	100	58.6
916	161856	Classic Operating	Rig Supply	31.980277	-94.058611	220	40	60	1	0.7	128	117	120	1.0
917	161559	Preston Exploration	Rig Supply	32.292221	-94.519166	580	80	15	1	5.3	1,027	674	105	6.4
918	161017	DEVON ENERGY	Rig Supply	32.182777	-94.325277	180	80	40	2	2.0	385	296	80	3.7
919	160680	Anadarko - Chris Sparks	Rig Supply	32.191666	-94.482221	200	120	10	1	12.0	2,310	1,331	100	13.3
920	160677	Conoco Phillips	Rig Supply	32.032499	-94.3	170	50	20	1	2.5	481	357	125	2.9
921	160674	Chevron E & P	Rig Supply	32.185555	-94.116943	330	120	20	1	6.0	1,155	744	100	7.4
922	160455	XTO Energy, Inc.	Rig Supply	32.265277	-94.06861	120	75	40	1	1.9	361	280	60	4.7
923	160452	XTO Energy, Inc.	Rig Supply	32.268332	-94.056111	130	75	40	1	1.9	361	280	70	4.0
924	160451	XTO Energy, Inc.	Rig Supply	32.265277	-94.06861	130	75	40	1	1.9	361	280	70	4.0
925	160002	DEVON ENERGY	Rig Supply	32.053611	-94.258611	120	80	30	2	2.7	513	376	80	4.7
926	159816	Chevron E & P	Rig Supply	32.194999	-94.116388	300	80	20	1	4.0	770	529	100	5.3
927	159810	Patara Oil & Gas	Rig Supply	32.156944	-94.552777	260	80	20	1	4.0	770	529	90	5.9
928	159705	Patara Oil & Gas	Rig Supply	32.138333	-94.542777	300	60	87	1	0.7	133	121	80	1.5
929	159702	Basa Resources, Inc.	Rig Supply	32.247221	-94.123888	100	80	20	1	4.0	770	529	70	7.6
930	159322	GOODRICH	Rig Supply	32.161666	-94.555277	443	70	70	1	1.0	193	165	90	1.8
931	159097	R Lacy Inc	Rig Supply	32.264722	-94.288888	100	60	10	1	6.0	1,155	744	20	37.2
932	158308	Anadarko - Chris Sparks	Rig Supply	32.211388	-94.387221	250	65	85	1	0.8	147	132	90	1.5
933	158306	Chesapeake Operating	Rig Supply	32.29361	-94.139444	100	65	71	9	0.9	176	153	70	2.2
934	158296	Chevron Texaco	Rig Supply	32.176388	-94.466666	140	75	71	2	1.1	203	173	80	2.2
935	158293	Anadarko - Chris Sparks	Rig Supply	32.194166	-94.48111	210	65	85	1	0.8	147	132	70	1.9
936	158291	Chevron Texaco	Rig Supply	32.253055	-94.462222	480	70	158	2	0.4	85	83	100	0.8
937	158276	DEVON ENERGY	Rig Supply	32.224166	-94.323888	120	90	60	2	1.5	289	232	50	4.6
938	158271	Devon Energy	Rig Supply	32.1	-94.2625	80	70	53	2	1.3	254	209	50	4.2
939	158269	Devon Energy	Rig Supply	32.080554	-94.338055	280	35	151	2	0.2	45	48	80	0.6
940	158264	Devon Energy	Rig Supply	32.078888	-94.358333	240	60	168	2	0.4	69	70	50	1.4
941	158205	Comstock Oil & Gas	Rig Supply	32.252777	-94.417777	240	80	111	2	0.7	139	125	90	1.4
942	158151	Basa Resources, Inc.	Rig Supply	32.0625	-94.495555	280	70	40	1	1.8	337	264	120	2.2
943	158119	XTO Energy, Inc.	Rig Supply	32.278332	-94.075554	100	70	15	1	4.7	898	602	65	9.3
944	158116	XTO Energy, Inc.	Rig Supply	32.281943	-94.068332	120	90	20	1	4.5	866	584	70	8.3
945	158089	Chevron E & P	Rig Supply	32.149721	-94.138055	175	90	25	1	3.6	693	484	50	9.7
946	157765	CHESAPEAKE OPR. INC.	Rig Supply	31.464166	-94.916943	270	70	10	2	7.0	1,348	847	60	14.1
947	157633	CHESAPEAKE OPERATING, INC.	Rig Supply	32.094166	-94.333054	250	60	50	2	1.2	231	192	70	2.7
948	157628	LACY OPERATIONS LTD	Rig Supply	32.265833	-94.355833	150	60	35	1	1.7	330	260	60	4.3
949	157018	NFR Energy	Rig Supply	32.308333	-94.463888	220	80	1	1	80.0	15,401	6,552	90	72.8
950	156982	GOODRICH	Rig Supply	32.223888	-94.605277	380	70	80	1	0.9	168	148	70	2.1
951	156977	Preston Exploration	Rig Supply	32.292221	-94.483888	460	80	40	1	2.0	385	296	100	3.0
952	156964	GOODRICH	Rig Supply	32.162777	-94.591388	442	65	15	2	4.3	834	566	62	9.1
953	156961	GOODRICH	Rig Supply	32.224443	-94.559444	400	60	10	2	6.0	1,155	744	60	12.4
954	156201	Patara Oil & Gas	Rig Supply	32.133888	-94.542777	560	70	60	1	1.2	225	188	100	1.9
955	156058	Chinn	Rig Supply	32.247499	-94.450555	360	100	10	1	10.0	1,925	1,142	110	10.4
956	155640	Lacy Operations, LTD	Rig Supply	32.264722	-94.38111	16	50	1	1	50.0	9,626	4,415	40	110.4
957	155381	Samson	Rig Supply	32.065555	-94.336388	380	60	40	1	1.5	289	232	90	2.6
958	155071	Anadarko - Chris Sparks	Rig Supply	32.244721	-94.49111	380	60	80	1	0.8	144	130	130	1.0
959	155042	GOODRICH	Rig Supply	32.137777	-94.575554	403	60	60	1	1.0	193	165	83	2.0
960	154924	Anadarko - Chris Sparks	Rig Supply	32.141666	-94.47361	140	50	25	1	2.0	385	296	100	3.0
961	154916	XTO Energy, Inc.	Rig Supply	32.358055	-94.461388	150	70	40	1	1.8	337	264	80	3.3
962	154909	Anadarko - Chris Sparks	Rig Supply	32.126666	-94.303333	180	70	30	1	2.3	449	336	100	3.4
963	154903	Anadarko - Chris Sparks	Rig Supply	32.131388	-94.249444	100	70	15	1	4.7	898	602	85	7.1
964	154771	LACY OPERATIONS, LTD	Rig Supply	32.232777	-94.454166	323	60	70	1	0.9	165	145	93	1.6
965	153604	GOODRICH	Rig Supply	32.135277	-94.546388	480	65	100	2	0.7	125	115	70	1.6
966	153241	GOODRICH	Rig Supply	32.155	-94.555277	443	60	100	1	0.6	116	108	83	1.3
967	153234	CHESAPEAKE OPR.	Rig Supply	32.091388	-94.327221	220	80	50	2	1.6	308	245	70	3.5
968	153213	TEXAS AMERICA	Rig Supply	32.306944	-94.438888	420	20	10	1	2.0	385	296	60	4.9
969	152627	Chevron Texaco	Rig Supply	32.260555	-94.48111	520	70	4	2	17.5	3,369	1,828	120	15.2
970	152625	Devon Energy	Rig Supply	32.146944	-94.238055	120	60	62	2	1.0	186	161	60	2.7
971	152623	Devon Energy	Rig Supply	32.160277	-94.28111	140	80	53	2	1.5	291	233	80	2.9
972	152208	Comstock Oil & Gas	Rig Supply	32.197777	-94.51	170	80	83	2	1.0	186	160	90	1.8
973	152188	Chesapeake Operating	Rig Supply	32.301944	-94.154166	120	75	64	2	1.2	226	189	60	3.1
974	152182	Chevron Texaco	Rig Supply	32.23111	-94.44361	240	65	212	2	0.3	59	61	60	1.0
975	152181	Chevron Texaco	Rig Supply	32.204722	-94.464722	360	80	172	2	0.5	90	87	160	0.5
976	152176	Langston Drilling Co.	Rig Supply	32.229166	-94.108333	220	30	102	2	0.3	57	59	110	0.5
977	152160	Langston	Rig Supply	32.296666	-94.182499	170	75	89	2	0.8	162	143	70	2.0
978	152156	Devon Energy	Rig Supply	32.141388	-94.274443	160	30	91	2	0.3	63	65	70	0.9
979	152143	Devon Energy	Rig Supply	32.139444	-94.308333	120	45	73	2	0.6	119	110	80	1.4
980	152142	Devon Energy	Rig Supply	32.211944	-94.356388	280	60	182	2	0.3	63	65	80	0.8
981	152138	Devon Energy	Rig Supply	32.036944	-94.391944	280	40	138	2	0.3	56	58	110	0.5
982	152128	Devon Energy	Rig Supply	32.186944	-94.279443	300	70	178	2	0.4	76	75	80	0.9
983	152127	Devon Energy	Rig Supply	32.069166	-94.383333	250	65	146	2	0.4	86	84	60	1.4
984	152122	Devon Energy	Rig Supply	32.183888	-94.288055	160	75	98	2	0.8	147	132	80	1.6
985	152121	Devon Energy	Rig Supply	32.07361	-94.414444	160	70	75	2	0.9	180	156	80	1.9
986	152120	Devon Energy	Rig Supply	32.070554	-94.345555	180	65	124	2	0.5	101	96	80	1.2
987	152114	Devon Energy	Rig Supply	32.18361	-94.283054	110	65	69	2	0.9	181	157	50	3.1
988	152095	Devon Energy	Rig Supply	32.091666	-94.366388	260	25	138	2	0.2	35	39	100	0.4
989	152094	Langston	Rig Supply	32.127777	-94.483333	120	75	78	2	1.0	185	160	60	2.7
990	152083	Devon Energy	Rig Supply	32.182221	-94.277777	160	70	102	2	0.7	132	120	70	1.7
991	151671	Preston Exploration	Rig Supply	32.304166	-94.482221	440	80	5	1	16.0	3,080	1,695	90	18.8
992	150887	Basa Resources, Inc.	Rig Supply	32.056111	-94.566666	190	60	40	1	1.5	289	232	110	2.1
993	150456	Anadarko - Chris Sparks	Rig Supply	32.205833	-94.493333	140	70	30	1	2.3	449	336	70	4.8
994	150454	Anadarko - Chris Sparks	Rig Supply	32.129999	-94.463055	260	70	40	1	1.8	337	264	80	3.3
995	150412	Anadarko - Chris Sparks	Rig Supply	32.025554	-94.346666	380	70	40	1	1.8	337	264	100	2.6
996	150219	Anadarko - Chris Sparks	Rig Supply	32.211388	-94.386944	140	60	40	1	1.5	289	232	100	2.3
997	149348	Chinn	Rig Supply	32.250555	-94.44611	460	60	40	1	1.5	289	232	160	1.5
998	149260	Jeff Crooks	Irrigation	32.108611	-94.101944	260	120	5	1	24.0	4,620	2,383	90	26.5
999	149069	Devon Energy	Rig Supply	32.153333	-94.28861	80	60	55	2	1.1	210	178	50	3.6
1000	149044	Devon Energy	Rig Supply	32.188055	-94.282221	120	80	73	2	1.1	211	178	70	2.5
1001	149037	Wynn Crosby Energy	Rig Supply	32.066388	-94.489721	360	70	173	2	0.4	78	77	100	0.8
1002	149025	A.C. Exploration	Rig Supply	32.194166	-94.552777	200	75	121	2	0.6	119	110	100	1.1
1003	148992	Devon Energy	Rig Supply	32.196944	-94.280277	160	70	82	2	0.9	164	145	80	1.8
1004	148983	Comstock Oil and Gas	Rig Supply	32.206111	-94.501944	220	65	33	2	2.0	379	292	70	4.2
1005	148982	Devon Energy	Rig Supply	32.164444	-94.278332	140	70	68	2	1.0	198	169	80	2.1
1006	148979	Devon Energy	Rig Supply	32.086388	-94.262222	120	70	71	2	1.0	190	163	80	2.0
1007	148962	Devin Energy	Rig Supply	32.091944	-94.380554	460	60	143	2	0.4	81	80	60	1.3
1008	148959	Classic Energy	Rig Supply	32.14361	-94.303333	100	75	72	2	1.0	201	171	60	2.8
1009	148955	Paladin Drilling Company	Rig Supply	32.09861	-94.056944	200	75	99	2	0.8	146	131	80	1.6
1010	148945	Chevron Texaco	Rig Supply	32.306944	-94.438055	420	75	172	2	0.4	84	82	130	0.6

Record ID	Tracking Number	Owner Name	Proposed Use	Lat (NAD83)	Long (NAD83)	Well Depth (ft)	Yield (gpm)	Drawdown (ft)	Well Test Duration (hours)	Specific Capacity (gpm/ft)	Specific Capacity (ft^2/day)	Estimated Transmissivity (ft^2/day)	Saturated Thickness (ft)	Estimated Hydraulic Conductivity (ft/day)
1011	148897	Anadarko - Chris Sparks	Rig Supply	32.109166	-94.4525	340	35	110	1	0.3	61	63	100	0.6
1012	148823	A.C. Exploration	Rig Supply	32.152777	-94.538055	360	75	129	2	0.6	112	105	100	1.0
1013	148803	Chevron Texaco	Rig Supply	32.252777	-94.468332	500	70	153	2	0.5	88	86	100	0.9
1014	148795	Langston Drilling Company	Rig Supply	32.361111	-94.074166	210	70	131	2	0.5	103	98	90	1.1
1015	148759	GOODRICH	Rig Supply	32.144999	-94.566388	340	50	100	1	0.5	96	92	70	1.3
1016	148731	Chevron Texaco	Rig Supply	32.23861	-94.405833	560	80	83	2	1.0	186	160	160	1.0
1017	148727	Chevron Texaco	Rig Supply	32.23611	-94.39111	490	80	164	2	0.5	94	90	130	0.7
1018	148687	Comstock Oil and Gas	Rig Supply	32.239444	-94.509166	360	80	173	2	0.5	89	86	110	0.8
1019	148678	Devon Energy	Rig Supply	32.089444	-94.38111	380	60	211	2	0.3	55	57	80	0.7
1020	148673	Devon Energy-Southland Paper #13	Rig Supply	32.0625	-94.353055	300	60	184	2	0.3	63	64	80	0.8
1021	148661	Devon Energy	Rig Supply	32.148888	-94.28111	130	80	88	2	0.9	175	152	70	2.2
1022	148656	Devon Energy	Rig Supply	32.07611	-94.396944	350	60	200	2	0.3	58	60	120	0.5
1023	148614	Devon Energy	Rig Supply	32.131666	-94.273054	120	80	96	2	0.8	160	142	60	2.4
1024	148611	Devon Energy	Rig Supply	32.051388	-94.27361	180	45	102	2	0.4	85	83	40	2.1
1025	147948	GOODRICH	Rig Supply	32.128332	-94.558055	363	65	60	1	1.1	209	177	83	2.1
1026	147900	Anadarko - Chris Sparks	Rig Supply	32.142499	-94.43611	320	60	74	1	0.8	156	138	100	1.4
1027	147899	Anadarko - Chris Sparks	Rig Supply	32.120832	-94.390277	100	70	25	1	2.8	539	392	70	5.6
1028	147797	Hunt Petroleum Corporation	Rig Supply	32.222777	-94.300277	110	65	30	1	2.2	417	316	80	4.0
1029	147790	Anadarko - Chris Sparks	Rig Supply	32.161666	-94.463888	400	60	90	1	0.7	128	117	100	1.2
1030	147391	Preston Exploration	Rig Supply	31.99361	-94.373332	380	70	20	1	3.5	674	473	105	4.5
1031	147367	Maximus Operating Ltd	Rig Supply	32.350833	-94.050555	260	55	85	1	0.6	125	115	160	0.7
1032	147300	Preston Exploration	Rig Supply	32.313055	-94.49361	440	70	5	1	14.0	2,695	1,515	110	13.8
1033	146608	Anadarko E & P Company, Inc.	Rig Supply	32.11	-94.406111	190	75	50	1	1.5	289	232	100	2.3
1034	146528	GOODRICH	Rig Supply	32.174721	-94.567221	315	75	60	1	1.3	241	199	95	2.1
1035	146295	Anadarko E & P Company, Inc.	Rig Supply	32.146388	-94.200555	190	75	50	1	1.5	289	232	110	2.1
1036	145745	Anadarko E & P Company, Inc.	Rig Supply	32.016388	-94.339999	220	70	30	1	2.3	449	336	180	1.9
1037	145742	Anadarko E & P Company, Inc.	Rig Supply	32.026943	-94.34111	340	75	30	1	2.5	481	357	180	2.0
1038	145741	Maximus Operating Ltd	Rig Supply	32.357222	-94.050277	110	65	25	1	2.6	501	368	98	3.8
1039	145501	Anadarko E & P Company, Inc.	Rig Supply	32.063611	-94.205277	250	60	85	1	0.7	136	123	120	1.0
1040	145497	Anadarko E & P Company, Inc.	Rig Supply	32.069443	-94.267499	180	70	40	1	1.8	337	264	140	1.9
1041	145171	Preston Exploration	Rig Supply	32.304166	-94.506666	340	80	20	1	4.0	770	529	100	5.3
1042	145134	ConocoPhillips Company	Rig Supply	32.051388	-94.241944	220	70	30	1	2.3	449	336	190	1.8
1043	145131	Anadarko E & P Company, Inc.	Rig Supply	32.134166	-94.2625	100	70	20	1	3.5	674	473	90	5.3
1044	145081	Anadarko E & P Company, Inc.	Rig Supply	32.039999	-94.290833	280	70	25	1	2.8	539	392	250	1.6
1045	144685	REILLY, MIKE	Domestic	32.653055	-97.665	299	60	1	1	60.0	11,551	5,146	100	51.5
1046	144638	Hunt Petroleum Corporation	Rig Supply	32.218332	-94.296388	90	70	20	1	3.5	674	473	12	39.4
1047	144626	ConocoPhillips Company	Rig Supply	32.028332	-94.305	300	65	60	1	1.1	209	177	80	2.2
1048	144121	Devon Energy	Rig Supply	32.076388	-94.356388	300	20	188	2	0.1	20	25	160	0.2
1049	143258	Enduring Resources	Rig Supply	32.084166	-94.585277	560	60	40	1	1.5	289	232	100	2.3
1050	143150	Anadarko E & P Company, Inc.	Rig Supply	32.144166	-94.411388	220	70	30	1	2.3	449	336	180	1.9
1051	143142	Anadarko E & P Company, Inc.	Rig Supply	32.108055	-94.263055	170	70	30	1	2.3	449	336	140	2.4
1052	142192	CHESAPEAKE ENERGY CORPORATION	Rig Supply	32.118332	-94.5025	383	60	80	1	0.8	144	130	80	1.6
1053	142112	CHESAPEAKE OPERATING	Rig Supply	31.301388	-94.429443	363	65	70	1	0.9	179	155	83	1.9
1054	142004	GOODRICH	Rig Supply	32.137777	-94.568332	380	50	10	1	5.0	963	638	60	10.6
1055	141970	Anadarko E & P Company, Inc.	Rig Supply	32.116666	-94.25	170	70	20	1	3.5	674	473	155	3.1
1056	141969	Anadarko E & P Company, Inc.	Rig Supply	32.150277	-94.166943	180	65	30	1	2.2	417	316	100	3.2
1057	141967	ConocoPhillips Company	Rig Supply	32.016666	-94.350277	280	55	85	1	0.6	125	115	200	0.6
1058	141891	XTO Energy Inc.	Rig Supply	32.133333	-94.300277	120	75	40	1	1.9	361	280	100	2.8
1059	141888	Anadarko E & P Company, Inc.	Rig Supply	32.150277	-94.183333	180	75	50	1	1.5	289	232	100	2.3
1060	141568	Wagner Oil	Rig Supply	32.099721	-94.204722	540	50	60	1	0.8	160	142	100	1.4
1061	141533	Hunt Petroleum Corporation	Rig Supply	32.216666	-94.3	120	70	20	1	3.5	674	473	100	4.7
1062	141442	Mike Parker	Domestic	32.168054	-94.349721	265	30	20	2	1.5	289	232	20	11.6
1063	141307	Anadarko E & P Company, Inc.	Rig Supply	32.15	-94.4	300	60	85	1	0.7	136	123	100	1.2
1064	140686	NFR Energy, LLC	Rig Supply	32	-94.466666	480	50	87	1	0.6	111	104	100	1.0
1065	140466	AC Exploration	Rig Supply	32.063333	-94.459166	360	70	5	1	14.0	2,695	1,515	130	11.7
1066	140338	Anadarko Petroleum	Rig Supply	32.166666	-94.400277	330	60	87	1	0.7	133	121	100	1.2
1067	140335	ConocoPhillips Company	Rig Supply	32.033333	-94.3	160	70	20	1	3.5	674	473	130	3.6
1068	139974	Pioneer Drilling	Industrial	32.019166	-94.500555	340	60	80	1	0.8	144	130	220	0.6
1069	139813	Chesapeake Operating, Inc.	Rig Supply	32.1	-94.33361	300	60	80	1	0.8	144	130	100	1.3
1070	139811	Devon Energy Production Company, LP	Rig Supply	32.13361	-94.283333	160	75	40	1	1.9	361	280	100	2.8
1071	139805	Anadarko E & P Company, Inc.	Rig Supply	32.35	-94.533333	400	50	90	1	0.6	107	101	100	1.0
1072	139804	Anadarko E & P Company, Inc.	Rig Supply	32.03361	-94.283333	190	70	20	1	3.5	674	473	160	3.0
1073	139781	Anadarko E & P Company, Inc.	Rig Supply	32.150277	-94.383333	310	70	30	1	2.3	449	336	90	3.7
1074	139141	Devon Energy	Rig Supply	32.07361	-94.4	320	60	194	2	0.3	60	62	100	0.6
1075	139132	A.C. Exploration	Rig Supply	32.051944	-94.511944	460	70	178	2	0.4	76	75	140	0.5
1076	139040	Classic Operating	Rig Supply	32.086388	-94.533888	480	60	10	1	6.0	1,155	744	90	8.3
1077	138903	Devon Energy Production Company, LP	Rig Supply	32.100277	-94.366943	240	65	85	1	0.8	147	132	100	1.3
1078	138888	Anadarko E & P Company, Inc.	Rig Supply	32.133333	-94.266666	130	70	20	1	3.5	674	473	115	4.1
1079	138879	GOODRICH	Rig Supply	32.175554	-94.582499	385	80	50	2	1.6	308	245	55	4.5
1080	138369	Hunt Petroleum	Industrial	32.319443	-94.270832	60	40	20	1	2.0	385	296	50	5.9
1081	138250	Texas American	Rig Supply	32.280554	-94.482499	520	70	5	1	14.0	2,695	1,515	110	13.8
1082	138246	Chinn Exploration	Rig Supply	32.249166	-94.455277	340	80	5	1	16.0	3,080	1,695	110	15.4
1083	138243	Samson	Rig Supply	32.409444	-94.227777	340	100	15	1	6.7	1,283	813	145	5.6
1084	138167	Preston Exploration	Rig Supply	32.003055	-94.380554	260	40	40	1	1.0	193	165	100	1.7
1085	138116	GOODRICH	Rig Supply	32.148055	-94.564444	263	60	80	2	0.8	144	130	23	5.6
1086	137783	ConocoPhillips Company	Rig Supply	32.05	-94.283333	225	65	85	1	0.8	147	132	125	1.1
1087	137644	Devon Energy Production Company, LP	Rig Supply	32.18361	-94.333333	145	70	20	1	3.5	674	473	120	3.9
1088	137642	Devon Energy Production Company, LP	Rig Supply	32.066666	-94.366666	300	65	60	1	1.1	209	177	100	1.8
1089	137637	Anadarko E & P Company, Inc.	Rig Supply	32.100277	-94.266943	200	65	60	1	1.1	209	177	100	1.8
1090	137064	Anadarko E & P Company, Inc.	Rig Supply	32.116943	-94.38361	180	70	30	1	2.3	449	336	80	4.2
1091	136117	Preston Exploration	Rig Supply	32.033888	-94.247499	280	80	5	1	16.0	3,080	1,695	90	18.8
1092	135965	Anadarko E & P Company, Inc.	Rig Supply	32.116666	-94.266666	240	65	85	1	0.8	147	132	200	0.7
1093	135964	Anadarko E & P Company, Inc.	Rig Supply	32.13361	-94.38361	300	60	81	1	0.7	143	128	100	1.3
1094	135963	Anadarko E & P Company, Inc.	Rig Supply	32.2	-94.48361	160	75	40	1	1.9	361	280	100	2.8
1095	135962	Anadarko E & P Company, Inc.	Rig Supply	32.216666	-94.466943	140	65	30	1	2.2	417	316	100	3.2
1096	135959	Anadarko E & P Company, Inc.	Rig Supply	32.216666	-94.483333	160	75	50	1	1.5	289	232	120	1.9
1097	135665	Devon Energy Production Company, LP	Rig Supply	32.066666	-94.216666	200	70	40	1	1.8	337	264	120	2.2
1098	135655	Johnson, Sam	Domestic	32.316111	-94.509444	400	23	118	1	0.2	38	42	100	0.4
1099	135562	Gordon, Anthony & Wright, Carolyn	Domestic	32.183054	-94.339999	215	40	167	1	0.2	46	50	115	0.4
1100	135462	Chesapeake	Rig Supply	32.138333	-94.546666	400	50	40	1	1.3	241	199	100	2.0
1101	135427	Devon Energy Production Company, LP	Rig Supply	32.083333	-94.366943	290	60	70	1	0.9	165	145	100	1.5
1102	135426	ConocoPhillips Company	Rig Supply	32.050277	-94.266943	180	70	30	1	2.3	449	336	100	3.4
1103	135411	Samson	Rig Supply	32.234444	-94.195277	220	50	60	1	0.8	160	142	100	1.4
1104	135391	Cornade (El Paso)	Rig Supply	32.016388	-94.492221	220	70	5	1	14.0	2,695	1,515	110	13.8
1105	135386	Enduring Resources	Rig Supply	32.408333	-94.782777	420	80	5	1	16.0	3,080	1,695	90	18.8
1106	135343	Enduring Resources	Rig Supply	32.027499	-94.59611	460	60	40	1	1.5	289	232	105	2.2
1107	134497	Anadarko E & P Company, Inc.	Rig Supply	32.083333	-94.28361	220	70	63	1	1.1	214	180	100	1.8
1108	134493	ConocoPhillips Company	Rig Supply	32.03361	-94.25	400	60	80	1	0.8	144	130	100	1.3
1109	134251	Goodrich Petroleum	Rig Supply	32.116943	-94.566666	260	75	63	1	1.2	229	191	100	1.9
1110	134211	Preston Exploration	Rig Supply	32.1	-94.474166	200	85	40	1	2.1	409	311	100	3.1
1111	133873	R. Lacy Inc.	Rig Supply	32.25	-94.316943	260	65	60	1	1.1	209	177	100	1.8

Record ID	Tracking Number	Owner Name	Proposed Use	Lat (NAD83)	Long (NAD83)	Well Depth (ft)	Yield (gpm)	Drawdown (ft)	Well Test Duration (hours)	Specific Capacity (gpm/ft)	Specific Capacity (ft^2/day)	Estimated Transmissivity (ft^2/day)	Saturated Thickness (ft)	Estimated Hydraulic Conductivity (ft/day)
1112	133870	Anadarko E & P Company, Inc.	Rig Supply	32.216666	-94.450277	180	70	60	1	1.2	225	188	165	1.1
1113	133864	Anadarko E & P Company, Inc.	Rig Supply	32.066943	-94.266666	240	65	85	1	0.8	147	132	236	0.6
1114	133861	Anadarko E & P Company, Inc.	Rig Supply	32.166666	-94.333333	320	65	85	1	0.8	147	132	100	1.3
1115	133238	Devon Energy Production Company, LP	Rig Supply	32.066943	-94.4	160	75	40	1	1.9	361	280	100	2.8
1116	133234	Devon Energy Production Company, LP	Rig Supply	32.2	-94.333333	180	75	50	1	1.5	289	232	100	2.3
1117	133232	ConocoPhillips Company	Rig Supply	32.05	-94.25	280	55	85	1	0.6	125	115	100	1.1
1118	133228	Basa Resources Inc	Rig Supply	32.050277	-94.516666	180	75	50	1	1.5	289	232	100	2.3
1119	133227	Anadarko E & P Company, Inc.	Rig Supply	32.15	-94.450277	190	75	50	1	1.5	289	232	150	1.5
1120	133211	Basa Resources Inc	Rig Supply	32.116943	-94.500277	450	60	155	1	0.4	75	74	100	0.7
1121	133206	Anadarko E & P Company, Inc.	Rig Supply	32.083333	-94.266943	200	65	60	1	1.1	209	177	170	1.0
1122	133203	Devon Energy Production Company, LP	Rig Supply	32.216666	-94.300277	135	70	60	1	1.2	225	188	95	2.0
1123	133198	Devon Energy Production Company, LP	Rig Supply	32.050277	-94.35	300	65	65	1	1.0	193	165	100	1.7
1124	132924	Robinson, Earl	Domestic	32.027499	-94.472777	258	10	40	3	0.3	48	52	28	1.8
1125	132922	Tarjick, Tyler	Domestic	32.14611	-94.382221	230	25	30	2	0.8	160	142	40	3.5
1126	132917	Holmes, Kenneth	Stock	32.061944	-94.211944	174	12	80	3	0.2	29	34	29	1.2
1127	132884	GOODRICH	Rig Supply	32.137221	-94.547777	325	45	60	1.5	0.8	144	130	75	1.7
1128	132877	Samson	Rig Supply	32.244721	-94.16861	180	65	5	1	13.0	2,503	1,424	105	13.6
1129	132871	Chesapeake Operating Inc.	Rig Supply	32.311666	-94.4125	360	80	5	1	16.0	3,080	1,695	90	18.8
1130	132355	Joe Allison	Domestic	32.174721	-94.314722	43	12	15	2	0.8	154	137	18	7.6
1131	131472	Anadarko E & P Company, Inc.	Rig Supply	32.116943	-94.250277	110	60	52	1	1.2	222	186	80	2.3
1132	131468	Anadarko E & P Company, Inc.	Rig Supply	32.15	-94.416943	260	70	65	1	1.1	207	176	190	0.9
1133	131465	Anadarko E & P Company, Inc.	Rig Supply	32.100277	-94.38361	135	70	20	1	3.5	674	473	105	4.5
1134	130185	Devon Energy Production Co., LP	Rig Supply	32.05	-94.383333	280	55	85	1	0.6	125	115	100	1.1
1135	129754	Devon Energy Production Co., LP	Rig Supply	32.15	-94.266666	120	75	40	1	1.9	361	280	100	2.8
1136	129751	Anadarko E & P Company, Inc.	Rig Supply	32.1	-94.233333	180	70	50	1	1.4	270	219	100	2.2
1137	129745	Devon Energy Production Co., LP	Rig Supply	32.216666	-94.33361	160	70	60	1	1.2	225	188	148	1.3
1138	129731	Samson	Rig Supply	32.386666	-94.085555	120	80	5	1	16.0	3,080	1,695	100	17.0
1139	129721	Chesapeake Operating, Inc.	Rig Supply	32.304444	-94.424999	360	100	5	1	20.0	3,850	2,045	90	22.7
1140	129482	Conoco Phillips Company	Rig Supply	32.033333	-94.33361	320	50	94	1	0.5	102	97	120	0.8
1141	129481	Devon Energy Production Co., LP	Rig Supply	32.1	-94.366943	190	75	50	1	1.5	289	232	100	2.3
1142	129477	Devon Energy Production Co., LP	Rig Supply	32.1	-94.366943	320	55	100	1	0.6	106	100	120	0.8
1143	129113	GOODRICH	Rig Supply	32.1525	-94.555833	183	50	45	1	1.1	214	180	80	2.3
1144	129062	BUFFCO PRODUCTION, INC.	Rig Supply	32.299166	-94.421666	300	70	50	1	1.4	270	219	60	3.7
1145	128798	GOODRICH	Rig Supply	31.459166	-94.905	380	65	50	2	1.3	250	206	100	2.1
1146	128530	Peace, Sammy	Stock	32.047221	-94.066666	220	35	80	3	0.4	84	82	65	1.3
1147	128527	Peace, Sammy	Domestic	32.046944	-94.066666	200	35	80	3	0.4	84	82	61	1.4
1148	128519	Baize, Kenneth	Domestic	32.075554	-94.347777	130	10	30	2	0.3	64	66	20	3.3
1149	128515	Rittenberry, John	Stock	32.0075	-94.239444	75	25	20	2	1.3	241	199	30	6.6
1150	128512	Rittenberry, John	Domestic	32.008611	-94.29861	45	15	15	3	1.0	193	165	20	8.3
1151	128460	Collins, Jane	Domestic	32.050555	-94.3025	212	30	70	2	0.4	83	81	32	2.5
1152	128459	Holmes, Kenneth	Stock	32.056111	-94.210555	55	20	10	2	2.0	385	296	23	12.9
1153	128458	Holmes, Kenneth	Stock	32.055555	-94.212222	55	20	10	2	2.0	385	296	23	12.9
1154	128454	Hudson, Jerry	Stock	32.094721	-94.289999	222	35	100	2	0.4	67	68	32	2.1
1155	128450	Fuselier, Palmer	Domestic	32.184721	-94.274443	40	18	10	2	1.8	347	271	22	12.3
1156	128449	Fuselier, Palmer	Domestic	32.183888	-94.274166	40	15	15	2	1.0	193	165	18	9.2
1157	128448	Dukes, Eddie	Domestic	32.194999	-94.270554	42	18	10	2	1.8	347	271	23	11.8
1158	128446	Walker, Ouida	Stock	32.187499	-94.321666	210	25	50	2	0.5	96	92	19	4.9
1159	128445	Walker, Ouida	Stock	32.187499	-94.321666	210	25	50	2	0.5	96	92	19	4.9
1160	128443	Walker, Ouida	Stock	32.18361	-94.31861	210	3	160	2	0.0	4	6	65	0.1
1161	128440	Gillis, Charles	Domestic	32.216111	-94.472221	340	40	40	2	1.0	193	165	30	5.5
1162	128439	Davis, Stan	Domestic	32.1625	-94.353888	40	20	18	2	1.1	214	180	20	9.0
1163	128438	Nixon, Drew	Domestic	32.165555	-94.410277	320	30	50	2	0.6	116	108	30	3.6
1164	128435	Holmes, Kenneth	Stock	32.054166	-94.212222	167	10	140	2	0.1	14	18	26	0.7
1165	127859	Anadarko E & P Company Inc.	Rig Supply	32.15	-94.4	340	55	110	1	0.5	96	92	100	0.9
1166	127836	Conoco Phillips Company	Rig Supply	32.05	-94.3	215	65	85	1	0.8	147	132	100	1.3
1167	127362	Samson	Rig Supply	32.362777	-94.072777	200	65	70	1	0.9	179	155	85	1.8
1168	127103	Anadarko E & P Company Inc.	Rig Supply	32.133333	-94.466666	310	65	87	1	0.7	144	129	100	1.3
1169	127091	Devon Energy Production	Rig Supply	32.05	-94.38361	380	70	90	1	0.8	150	134	100	1.3
1170	127090	Anadarko E & P Company Inc.	Rig Supply	32.08361	-94.316666	210	70	65	1	1.1	207	176	130	1.4
1171	125838	Preston Exploration	Rig Supply	32.305555	-94.489444	460	75	125	1	0.6	116	108	80	1.3
1172	125769	Chesapeake Operating Inc.	Rig Supply	32.190555	-94.523332	460	70	10	1	7.0	1,348	847	110	7.7
1173	125292	Devon Energy Production	Rig Supply	32.08361	-94.366666	275	55	85	1	0.6	125	115	200	0.6
1174	125289	Basa Resources, Inc.	Rig Supply	32.05	-94.55	380	50	90	1	0.6	107	101	100	1.0
1175	124968	Chinn	Rig Supply	32.249721	-94.4525	360	80	40	1	2.0	385	296	100	3.0
1176	124750	JOHN LAMBERT	Domestic	32.232221	-94.358888	260	25	2	1	12.5	2,406	1,378	40	34.4
1177	124692	Anadarko E & P Company Inc.	Rig Supply	32.13361	-94.466666	300	70	85	1	0.8	159	140	100	1.4
1178	124687	Anadarko E & P Company Inc.	Rig Supply	32.166666	-94.400277	140	75	40	1	1.9	361	280	100	2.8
1179	124685	Goodrich Petroleum	Rig Supply	32.116666	-94.53361	200	75	80	1	0.9	180	156	100	1.6
1180	124682	Devon Energy Production	Rig Supply	32.08361	-94.466666	340	55	110	1	0.5	96	92	100	0.9
1181	124388	GOODRICH	Rig Supply	32.263055	-94.536388	280	60	40	1	1.5	289	232	25	9.3
1182	124261	Energen c/o Brammer Engineering	Rig Supply	32.333333	-94.6	440	50	155	1	0.3	62	64	200	0.3
1183	124257	R. Lacy Inc.	Rig Supply	32.250277	-94.366943	150	75	40	1	1.9	361	280	100	2.8
1184	123774	GOODRICH	Rig Supply	32.206111	-94.566111	462	55	2	1	27.5	5,294	2,672	62	43.1
1185	123702	Preston Exploration	Rig Supply	32.07861	-94.266111	160	60	5	1	12.0	2,310	1,331	100	13.3
1186	123298	Anadarko E & P Company Inc.	Rig Supply	32.08361	-94.28361	250	70	50	1	1.4	270	219	100	2.2
1187	123270	Anadarko E & P Company Inc.	Rig Supply	32.2	-94.350277	210	70	60	1	1.2	225	188	170	1.1
1188	123011	Devon Energy Production	Rig Supply	32.183333	-94.516666	380	70	90	1	0.8	150	134	100	1.3
1189	123008	Anadarko E & P Company Inc.	Rig Supply	32.083333	-94.283333	220	40	60	1	0.7	128	117	100	1.2
1190	122996	Devon Energy Production	Rig Supply	32.250277	-94.233333	150	75	40	1	1.9	361	280	100	2.8
1191	122994	Devon Energy Production	Rig Supply	32.200277	-94.35	220	65	85	1	0.8	147	132	100	1.3
1192	122987	Anadarko E & P Company Inc.	Rig Supply	32.18361	-94.38361	230	65	85	1	0.8	147	132	100	1.3
1193	122765	Devon Energy Production	Rig Supply	32.183333	-94.516666	320	55	110	1	0.5	96	92	120	0.8
1194	122761	Anadarko E & P Company Inc.	Rig Supply	32.383333	-94.58361	560	50	90	1	0.6	107	101	100	1.0
1195	122753	Conoco Phillips Company	Rig Supply	32.03361	-94.283333	280	70	85	1	0.8	159	140	100	1.4
1196	122746	Anadarko E & P Company Inc.	Rig Supply	32.166943	-94.383333	200	65	50	1	1.3	250	206	100	2.1
1197	122732	Devon Energy Production	Rig Supply	32.066666	-94.416666	115	75	40	1	1.9	361	280	100	2.8
1198	122388	Chesapeake Operating, Inc.	Rig Supply	32.036944	-94.283054	240	70	20	1	3.5	674	473	100	4.7
1199	122360	O'Benco Inc.	Rig Supply	32.38361	-94.366666	380	70	65	1	1.1	207	176	200	0.9
1200	122345	Classic Hydro Carbon	Rig Supply	32.379166	-94.335555	260	70	75	1	0.9	180	156	90	1.7
1201	122281	Devon Energy Production	Rig Supply	32.13361	-94.266943	115	70	50	1	1.4	270	219	85	2.6
1202	122277	Anadarko E & P Company Inc.	Rig Supply	32.166666	-94.366943	140	75	40	1	1.9	361	280	100	2.8
1203	121943	R. Lacy Inc.	Rig Supply	32.23361	-94.333333	180	75	50	1	1.5	289	232	100	2.3
1204	121942	Devon Energy Production	Rig Supply	32.05	-94.416666	500	60	90	1	0.7	128	117	140	0.8
1205	121939	Devon Energy Production	Rig Supply	32.066666	-94.350277	210	65	85	1	0.8	147	132	100	1.3
1206	121525	GOODRICH	Rig Supply	32.224166	-94.571388	343	60	50	1	1.2	231	192	70	2.7
1207	121131	BUFFCO	Rig Supply	32.069443	-94.556944	372	60	2	1	30.0	5,775	2,875	62	46.4
1208	120826	Devon Energy Production	Rig Supply	32.066943	-94.383333	300	70	80	1	0.9	168	148	100	1.5
1209	120824	Devon Energy Production	Rig Supply	32.2	-94.3	140	75	40	1	1.9	361	280	100	2.8
1210	120821	Devon Energy Production	Rig Supply	32.083333	-94.38361	180	75	50	1	1.5	289	232	150	1.5
1211	120813	Devon Energy Production	Rig Supply	32.166666	-94.316943	280	65	65	1	1.0	193	165	240	0.7
1212	120695	GOODRICH	Rig Supply	32.158888	-94.565833	483	50	100	1.5	0.5	96	92	98	0.9

Record ID	Tracking Number	Owner Name	Proposed Use	Lat (NAD83)	Long (NAD83)	Well Depth (ft)	Yield (gpm)	Drawdown (ft)	Well Test Duration (hours)	Specific Capacity (gpm/ft)	Specific Capacity (ft^2/day)	Estimated Transmissivity (ft^2/day)	Saturated Thickness (ft)	Estimated Hydraulic Conductivity (ft/day)
1213	120513	Chesapeake Operating, Inc.	Rig Supply	32.298888	-94.165	120	70	50	1	1.4	270	219	80	2.7
1214	120509	AC Exploration, LLC	Rig Supply	32.138888	-94.53361	480	70	10	1	7.0	1,348	847	90	9.4
1215	119582	Devon Energy Production	Rig Supply	32.1	-94.366666	260	65	70	1	0.9	179	155	220	0.7
1216	119579	Devon Energy Production	Rig Supply	32.1	-94.366666	240	65	70	1	0.9	179	155	200	0.8
1217	119316	Chesapeake Operating Inc.	Rig Supply	32.111666	-94.536666	200	20	75	1	0.3	51	54	80	0.7
1218	119315	Chesapeake Operating Inc.	Rig Supply	32.111666	-94.536666	420	50	200	1	0.3	48	52	80	0.6
1219	119313	Texas American Resources	Rig Supply	32.265	-94.454722	400	60	100	1	0.6	116	108	100	1.1
1220	118839	Anadarko E & P Company Inc.	Rig Supply	32.35	-94.583333	340	60	110	1	0.5	105	99	140	0.7
1221	118827	XTO Energy	Rig Supply	32.108888	-94.332221	240	55	16	1	3.4	662	466	80	5.8
1222	118737	GOODRICH PETROLEUM	Rig Supply	32.055555	-94.585833	403	60	80	1	0.8	144	130	103	1.3
1223	118349	ChevronTexaco	Rig Supply	32.183333	-94.166666	320	50	115	1	0.4	84	82	200	0.4
1224	118348	ChevronTexaco	Rig Supply	32.133333	-94.133333	320	55	110	1	0.5	96	92	100	0.9
1225	118214	GOODRICH PETROLEUM	Rig Supply	32.249444	-94.553333	343	60	70	1	0.9	165	145	113	1.3
1226	118024	Conoco Phillips Company	Rig Supply	32.016666	-94.35	380	60	70	1	0.9	165	145	220	0.7
1227	118022	Hunt Petroleum Corporation	Rig Supply	32.333333	-94.266666	320	65	70	1	0.9	179	155	100	1.6
1228	118016	Anadarko E & P Company Inc.	Rig Supply	32.216943	-94.450277	440	65	70	1	0.9	179	155	100	1.6
1229	117950	Devon Energy Production	Rig Supply	32.166943	-94.316666	190	75	50	1	1.5	289	232	140	1.7
1230	117948	Anadarko E & P Company Inc.	Rig Supply	32.2	-94.383333	180	70	50	1	1.4	270	219	120	1.8
1231	117943	Chevron North America E&P Cp.	Rig Supply	32.15	-94.116943	300	65	70	1	0.9	179	155	220	0.7
1232	117926	Enduring Resources	Rig Supply	32.069999	-94.580554	350	70	75	1	0.9	180	156	80	1.9
1233	117921	Bill Tomlinson	Rig Supply	32.000555	-94.239721	120	70	20	1	3.5	674	473	40	11.8
1234	117907	Chesapeake Operating, Inc.	Rig Supply	32.116666	-94.372499	230	70	75	1	0.9	180	156	110	1.4
1235	117905	Hunt Petroleum	Industrial	32.328054	-94.274721	240	65	70	1	0.9	179	155	140	1.1
1236	117893	Goodrich Petroleum	Rig Supply	32.147777	-94.570277	522	65	10	2	6.5	1,251	796	62	12.8
1237	117882	Buffco Production	Rig Supply	31.274999	-94.4075	355	60	5	2	12.0	2,310	1,331	65	20.5
1238	117749	Chinn Exploration	Rig Supply	32.283333	-94.400277	240	65	85	1	0.8	147	132	140	0.9
1239	117492	XTO Energy Inc.	Rig Supply	32.316666	-94.133333	130	75	40	1	1.9	361	280	100	2.8
1240	117481	Hunt Petroleum Corporation	Rig Supply	32.333333	-94.266943	360	70	50	1	1.4	270	219	150	1.5
1241	117230	Texas American Resources	Rig Supply	32.258333	-94.475832	420	80	5	1	16.0	3,080	1,695	110	15.4
1242	116803	Bill Tomlinson	Rig Supply	32.034721	-94.239999	110	80	5	1	16.0	3,080	1,695	110	15.4
1243	116419	Devon Energy Production	Rig Supply	32.05	-94.416943	320	55	110	1	0.5	96	92	200	0.5
1244	116288	Texas American Resources	Rig Supply	32.271666	-94.474443	370	65	60	1	1.1	209	177	100	1.8
1245	115835	Chevron USA Productions	Rig Supply	32.25	-94.45	260	55	85	1	0.6	125	115	200	0.6
1246	115503	Devon Energy Production	Rig Supply	32.266666	-94.216943	175	75	50	1	1.5	289	232	135	1.7
1247	115218	Chesapeake Operating, Inc.	Rig Supply	32.288888	-94.151111	140	80	5	1	16.0	3,080	1,695	110	15.4
1248	115194	Dorado	Rig Supply	32.297777	-94.393055	340	70	40	1	1.8	337	264	100	2.6
1249	115147	Texas American Resources	Rig Supply	32.268332	-94.488055	460	60	150	1	0.4	77	76	100	0.8
1250	115138	CHESAPEAKE OPR., INC.	Rig Supply	32.244721	-94.477221	535	65	5	2	13.0	2,503	1,424	65	21.9
1251	115124	Samson	Rig Supply	32.372221	-94.078054	180	80	5	1	16.0	3,080	1,695	105	16.1
1252	114899	Chesapeake Operating Inc.	Rig Supply	32.122499	-94.541944	180	70	25	1	2.8	539	392	100	3.9
1253	114881	Loutex	Rig Supply	32.459722	-94.33111	340	75	10	12	7.5	1,444	897	60	15.0
1254	114622	Sterling Energy Inc.	Rig Supply	32.05	-94.416943	340	65	110	1	0.6	114	106	200	0.5
1255	114591	Anadarko E & P Company Inc.	Rig Supply	32.216666	-94.466666	160	70	40	1	1.8	337	264	100	2.6
1256	114589	Hunt Petroleum Corporation	Rig Supply	32.200277	-94.3	140	75	40	1	1.9	361	280	100	2.8
1257	114575	Anadarko E & P Company Inc.	Rig Supply	32	-94.300277	390	65	70	1	0.9	179	155	80	1.9
1258	114021	Devon Energy Production Company L. P.	Rig Supply	32.150277	-94.283333	130	70	40	1	1.8	337	264	90	2.9
1259	113996	Chevron USA Production	Rig Supply	32.18361	-94.400277	280	65	70	1	0.9	179	155	220	0.7
1260	113575	Comstock Oil and Gas Company	Rig Supply	32.233333	-94.316666	130	55	75	1	0.7	141	127	100	1.3
1261	113574	Devon Energy Production Company L. P.	Rig Supply	32.066943	-94.366666	310	55	110	1	0.5	96	92	100	0.9
1262	113557	Devon Energy Production Company L. P.	Rig Supply	32.216943	-94.35	140	60	80	1	0.8	144	130	100	1.3
1263	113500	Goodrich Petroleum	Rig Supply	32.194721	-94.531388	320	50	60	2	0.8	160	142	75	1.9
1264	113489	Forest Oil Corp.	Rig Supply	32.374443	-94.374443	323	70	75	1	0.9	180	156	93	1.7
1265	113480	Chesapeake Operating	Rig Supply	32.174166	-94.527499	243	70	60	1	1.2	225	188	73	2.6
1266	113412	Devon Energy Production Company L. P.	Rig Supply	32.166666	-94.266666	140	70	60	1	1.2	225	188	100	1.9
1267	113406	Devon Energy Production Company L. P.	Rig Supply	32.033333	-94.38361	380	65	70	1	0.9	179	155	230	0.7
1268	113132	Dustin Powell	Domestic	32.227499	-94.412222	440	100	10	1	10.0	1,925	1,142	90	12.7
1269	112697	ConocoPhillips Company	Rig Supply	32.016666	-94.316943	400	65	70	1	0.9	179	155	220	0.7
1270	112685	Chinn Exploration	Rig Supply	32.291944	-94.415277	320	70	20	1	3.5	674	473	120	3.9
1271	112522	Anadarko E & P Company Inc.	Rig Supply	32	-94.28361	380	70	50	1	1.4	270	219	100	2.2
1272	112159	Ken Turner	Domestic	32.158888	-94.32361	252	60	40	2	1.5	289	232	20	11.6
1273	111741	Chesapeake	Rig Supply	32.115833	-94.527221	375	65	70	2	0.9	179	155	75	2.1
1274	111500	Hunt Petroleum Corpration	Rig Supply	32.2	-94.3	150	65	70	1	0.9	179	155	90	1.7
1275	111496	Anadarko E & P Company Inc.	Rig Supply	32.116666	-94.3	260	70	40	1	1.8	337	264	100	2.6
1276	111492	Devon Energy Production Company L. P.	Rig Supply	32.166943	-94.333333	215	65	70	1	0.9	179	155	95	1.6
1277	111200	PIONEER DRILLING	Industrial	32.240833	-94.315555	100	75	25	1	3.0	578	416	90	4.6
1278	110618	Devon Energy Production Company L. P.	Rig Supply	32.23361	-94.25	130	65	40	1	1.6	313	248	100	2.5
1279	110332	Chinn Exploration	Rig Supply	32.287499	-94.412222	340	80	5	1	16.0	3,080	1,695	90	18.8
1280	110030	Devon Energy Production L. P.	Rig Supply	32.15	-94.283333	185	65	60	1	1.1	209	177	85	2.1
1281	109698	Chesapeake Operating	Rig Supply	32.179721	-94.518888	435	55	2	1	27.5	5,294	2,672	65	41.1
1282	109653	Buffco Production	Rig Supply	32.292499	-94.440833	372	60	2	1	30.0	5,775	2,875	62	46.4
1283	109168	Dorado	Rig Supply	32.326388	-94.451111	420	50	60	1	0.8	160	142	100	1.4
1284	109058	Devon Energy Production Company L. P.	Rig Supply	32.183333	-94.3	150	65	60	1	1.1	209	177	90	2.0
1285	109056	Devon Energy Production Company L. P.	Rig Supply	32.250277	-94.25	140	50	40	1	1.3	241	199	150	1.3
1286	109052	Devon Energy Production Company L. P.	Rig Supply	32.283333	-94.133333	130	50	35	1	1.4	275	223	100	2.2
1287	109025	Anadarko E & P Company Inc.	Rig Supply	32.083333	-94.3	260	55	85	1	0.6	125	115	200	0.6
1288	108769	Chevron USA Production	Rig Supply	32.233333	-94.416666	270	65	85	1	0.8	147	132	100	1.3
1289	108354	Jeff Crooks	Rig Supply	32.1625	-94.539166	460	90	5	1	18.0	3,465	1,872	90	20.8
1290	108338	Enduring Resources	Rig Supply	32.002777	-94.602777	360	50	40	1	1.3	241	199	100	2.0
1291	107875	Anadarko E & P Company Inc.	Rig Supply	32.016943	-94.366943	370	66	90	1	0.7	141	127	200	0.6
1292	107722	Hunt Petroleum Corpration	Rig Supply	32.216666	-94.28361	130	75	40	1	1.9	361	280	100	2.8
1293	107644	Chesapeake Operating Inc.	Rig Supply	32.100277	-94.48361	360	60	70	1	0.9	165	145	100	1.5
1294	107533	Anadarko E & P Company Inc.	Rig Supply	32.083333	-94.300277	200	65	85	1	0.8	147	132	100	1.3
1295	106377	Rita Bagley	Domestic	32.191388	-94.070277	180	25	30	6	0.8	160	142	80	1.8
1296	106213	Dorado	Rig Supply	32.280554	-94.467221	480	80	5	1	16.0	3,080	1,695	90	18.8
1297	106196	R. Lacy Inc.	Rig Supply	32.273888	-94.3	130	60	50	1	1.2	231	192	270	0.7
1298	106174	Chevron USA Production	Rig Supply	32.2	-94.433333	355	50	90	1	0.6	107	101	200	0.5
1299	106170	Chevron USA Production	Rig Supply	32.333333	-94.38361	330	55	110	1	0.5	96	92	100	0.9
1300	105683	CLASSIC OIL & GAS	Rig Supply	32.111111	-94.359722	330	60	132	2	0.5	88	85	70	1.2
1301	105520	Jack Phillips	Rig Supply	32.255833	-95.041388	312	55	2	1	27.5	5,294	2,672	62	43.1
1302	105437	STROUD ENERGY	Rig Supply	32.365	-94.102222	120	80	58	1	1.4	266	216	70	3.1
1303	105405	DEVON ENERGY	Rig Supply	32.091666	-94.38111	380	60	123	2	0.5	94	90	100	0.9
1304	105261	G & A DRLG	Rig Supply	32.16861	-94.554166	400	65	184	2	0.4	68	69	80	0.9
1305	105239	G & A DRLG	Rig Supply	32.229166	-94.114444	180	20	110	2	0.2	35	39	60	0.7
1306	105235	R LACY INC	Rig Supply	32.276943	-94.324999	285	70	174	2	0.4	77	77	105	0.7
1307	105230	R LACY INC	Rig Supply	32.258055	-94.326943	120	55	103	2	0.5	103	97	40	2.4
1308	105225	DEVON ENERGY INC	Rig Supply	32.197777	-94.363055	140	75	91	2	0.8	159	140	80	1.8
1309	105220	DEVON ENERGY INC	Rig Supply	32.251944	-94.26	90	80	56	2	1.4	275	223	60	3.7
1310	105217	DEVON ENERGY INC	Rig Supply	32.103611	-94.420832	580	50	105	2	0.5	92	89	80	1.1
1311	105193	DEVON ENERGY	Rig Supply	32.122499	-94.293333	170	80	98	2	0.8	157	139	70	2.0
1312	105130	AC Exploration, LLC	Rig Supply	32.1625	-94.535555	440	80	100	1	0.8	154	137	90	1.5
1313	104994	Chesapeake Operating Inc.	Rig Supply	32.300277	-94.38361	340	55	110	1	0.5	96	92	100	0.9

Record ID	Tracking Number	Owner Name	Proposed Use	Lat (NAD83)	Long (NAD83)	Well Depth (ft)	Yield (gpm)	Drawdown (ft)	Well Test Duration (hours)	Specific Capacity (gpm/ft)	Specific Capacity (ft^2/day)	Estimated Transmissivity (ft^2/day)	Saturated Thickness (ft)	Estimated Hydraulic Conductivity (ft/day)
1314	104989	Basa Resources, Inc.	Rig Supply	32.050277	-94.516666	440	50	210	1	0.2	46	49	100	0.5
1315	104855	Chesapeake Operating Inc.	Rig Supply	32.3	-94.15	110	60	40	1	1.5	289	232	70	3.3
1316	104790	Goodrich Petroleum	Rig Supply	32.201944	-94.569443	383	50	75	1.5	0.7	128	117	93	1.3
1317	104543	Brammer Eng. Inc.	Rig Supply	32.040833	-94.329443	260	70	50	1	1.4	270	219	80	2.7
1318	104355	Anadarko E & P Company Inc.	Rig Supply	32.150277	-94.3	360	50	90	1	0.6	107	101	200	0.5
1319	104206	Anadarko E and P Co., LP	Industrial	32.158055	-94.413888	320	60	140	1	0.4	83	81	258	0.3
1320	103845	Chevron USA Production	Rig Supply	32.216666	-94.416943	270	55	85	1	0.6	125	115	100	1.1
1321	103732	Goodrich Petroleum	Rig Supply	31.233333	-94.55	480	50	120	1	0.4	80	79	100	0.8
1322	103450	Goodrich Petroleum	Rig Supply	32.189166	-94.576388	423	55	65	1	0.8	163	144	73	2.0
1323	103378	Chesapeake	Rig Supply	32.129443	-94.489721	323	65	60	2	1.1	209	177	93	1.9
1324	103360	CHEVRON/TEXACO	Rig Supply	32.3	-94.416943	260	65	100	1	0.7	125	115	80	1.4
1325	103280	Anderson, Bobby	Domestic	32.118332	-94.382221	100	15	42	1	0.4	69	70	60	1.2
1326	103276	Duckworth, Rowland	Domestic	32.127499	-94.283333	240	17	50	1	0.3	65	67	60	1.1
1327	103244	Errington, Albert	Domestic	32.068332	-94.600555	340	20	120	1	0.2	32	37	75	0.5
1328	103237	Anderson, Royce	Domestic	32.151111	-94.32361	150	25	84	1	0.3	57	60	55	1.1
1329	103232	Davis, Larry	Domestic	32.121943	-94.282499	245	30	120	1	0.3	48	52	70	0.7
1330	103093	Anadarko E & P Company Inc.	Rig Supply	32.183333	-94.433333	320	55	110	1	0.5	96	92	100	0.9
1331	103012	AC Exploration, LLC	Rig Supply	32.185277	-94.548888	500	70	10	1	7.0	1,348	847	90	9.4
1332	102820	Basa Resources, Inc.	Rig Supply	32.050277	-94.516666	360	60	85	1	0.7	136	123	120	1.0
1333	102116	Anadarko E & P Company Inc.	Rig Supply	32.18361	-94.383333	240	65	80	1	0.8	156	139	120	1.2
1334	102108	Chevron USA Production	Rig Supply	32.35	-94.4	310	60	85	1	0.7	136	123	100	1.2
1335	101978	Goodrich Petroleum	Rig Supply	32.188888	-94.575832	423	60	70	1.5	0.9	165	145	95	1.5
1336	101962	Goodrich Petroleum	Rig Supply	32.259444	-94.534999	443	70	80	2	0.9	168	148	103	1.4
1337	101953	Goodrich Petroleum	Rig Supply	32.18861	-94.574999	372	60	2	1	30.0	5,775	2,875	62	46.4
1338	101949	Goodrich Petroleum	Rig Supply	32.164166	-94.580554	180	75	60	1	1.3	241	199	70	2.8
1339	101945	Chesapeake Operating	Rig Supply	32.113611	-94.490277	320	75	80	2	0.9	180	156	70	2.2
1340	101942	Cabot Oil & Gas	Rig Supply	32.038888	-94.6625	560	65	120	2	0.5	104	99	80	1.2
1341	101934	Comstock	Rig Supply	32.249444	-94.500277	420	80	80	2	1.0	193	165	95	1.7
1342	101742	Harelton c/o Brammer	Rig Supply	32.033333	-94.333333	520	35	140	1	0.3	48	52	100	0.5
1343	101736	Basa Resources, Inc.	Rig Supply	32.050277	-94.516666	400	60	120	1	0.5	96	92	120	0.8
1344	101615	Enduring Resources	Rig Supply	32.009166	-94.586388	520	60	100	1	0.6	116	108	100	1.1
1345	101079	Basa Resources	Rig Supply	32.131666	-94.508888	200	75	40	2	1.9	361	280	55	5.1
1346	101056	Chesapeake	Rig Supply	32.120832	-94.506944	280	80	70	2	1.1	220	185	90	2.1
1347	101041	Goodrich Petroleum	Rig Supply	32.211111	-94.6025	380	65	80	1.5	0.8	156	139	70	2.0
1348	101039	Goodrich Petroleum	Domestic	32.017499	-94.640555	442	50	10	2	5.0	963	638	62	10.3
1349	101038	Goodrich Petroleum	Rig Supply	32.158055	-94.555555	363	20	100	2	0.2	39	43	93	0.5
1350	100884	Comstock Oil and Gas Company	Rig Supply	32.083333	-94.046944	230	65	85	1	0.8	147	132	100	1.3
1351	100878	Enduring Resources	Rig Supply	32.084444	-94.578888	500	80	10	1	8.0	1,540	947	90	10.5
1352	100494	Dorado	Rig Supply	32.339444	-94.445277	320	65	40	1	1.6	313	248	100	2.5
1353	100267	Comstock	Rig Supply	32.243333	-94.511944	403	75	100	2	0.8	144	130	90	1.4
1354	100056	Buffco Production Inc	Rig Supply	32.1	-94.183333	150	75	40	1	1.9	361	280	100	2.8
1355	99187	O'benco	Rig Supply	32.033333	-94.183333	240	65	85	1	0.8	147	132	180	0.7
1356	99040	Glenn Reeves	Domestic	32.078888	-94.138055	163	25	60	3	0.4	80	79	33	2.4
1357	99035	Chesapeake	Rig Supply	32.114166	-94.487499	280	75	60	2	1.3	241	199	95	2.1
1358	98960	Anadarko E & P Company Inc.	Rig Supply	32.000277	-94.3	320	55	110	1	0.5	96	92	150	0.6
1359	98490	Anadarko E & P Company Inc.	Rig Supply	32.18361	-94.383333	260	55	80	1	0.7	132	121	120	1.0
1360	98025	Goodrich	Rig Supply	32.110555	-94.575554	392	55	2	1	27.5	5,294	2,672	62	43.1
1361	98024	Goodrich	Rig Supply	32.17861	-94.624721	552	55	10	2	5.5	1,059	691	62	11.2
1362	97796	Comstock Oil and Gas Company	Rig Supply	32.25	-94.5	480	50	74	1	0.7	130	119	100	1.2
1363	97777	Chevron USA Production	Rig Supply	32.333333	-94.383333	300	60	95	1	0.6	122	112	120	0.9
1364	97433	Comstock Oil and Gas Company	Rig Supply	32.25	-94.5	240	50	85	1	0.6	113	106	160	0.7
1365	97240	JCS Services /Jeff Crooks	Domestic	32.106944	-94.353333	220	95	10	1	9.5	1,829	1,094	150	7.3
1366	97231	Enduring Resources	Rig Supply	32.024443	-94.578332	440	60	15	1	4.0	770	529	100	5.3
1367	97224	Enduring Resources	Rig Supply	32.600277	-94.662222	420	85	20	1	4.3	818	557	100	5.6
1368	97218	AC Exploration, LLC	Rig Supply	32.163888	-94.525277	420	70	20	1	3.5	674	473	80	5.9
1369	96680	Basa Resources, Inc.	Rig Supply	32.133333	-94.5	130	60	40	1	1.5	289	232	90	2.6
1370	96679	Anadarko E & P Company Inc.	Rig Supply	32.166943	-94.4	280	60	80	1	0.8	144	130	140	0.9
1371	96678	Chevron USA Production	Rig Supply	32.25	-94.43361	280	55	80	1	0.7	132	121	200	0.6
1372	96568	O'BENCO	Rig Supply	32.266666	-94.38361	340	70	100	1	0.7	135	122	100	1.2
1373	96105	JoAnn Winkle	Domestic	32.095833	-94.473054	410	35	5	2	7.0	1,348	847	40	21.2
1374	96088	Dorado	Rig Supply	32.313333	-94.177221	140	90	40	1	2.3	433	326	90	3.6
1375	95072	Chesapeake	Rig Supply	32.12611	-94.533054	412	75	5	2	15.0	2,888	1,606	62	25.9
1376	94586	Comstock Oil and Gas Company	Rig Supply	32.25	-94.48361	370	55	90	1	0.6	118	109	150	0.7
1377	94471	Basa Resources, Inc.	Rig Supply	32.05	-94.53361	280	55	85	1	0.6	125	115	200	0.6
1378	93902	Chesapeake Operating Inc.	Rig Supply	32.15	-94.3	190	75	50	1	1.5	289	232	90	2.6
1379	93901	Anadarko E & P Company Inc.	Rig Supply	32.18361	-94.383333	200	75	50	1	1.5	289	232	100	2.3
1380	93682	Jason Heinkel	Domestic	32.029166	-94.245555	50	10	5	2	2.0	385	296	40	7.4
1381	93311	Anadarko E & P Company	Rig Supply	32.166943	-94.416666	340	50	115	1	0.4	84	82	140	0.6
1382	93301	Enduring Resources LLC.	Rig Supply	32.016666	-94.583333	380	50	90	1	0.6	107	101	80	1.3
1383	93203	Chinn Exploration Company	Rig Supply	32.291388	-94.403611	240	40	25	1	1.6	308	245	140	1.8
1384	93181	Samson Lone Star	Rig Supply	32.358888	-94.084721	125	55	15	1	3.7	706	492	85	5.8
1385	92913	XTO Energy	Rig Supply	32.112222	-94.353888	210	40	1	1	40.0	7,701	3,660	50	73.2
1386	92783	Dorado Exploration Inc.	Rig Supply	32.300277	-94.166943	175	43	100	1	0.4	83	81	115	0.7
1387	92361	Anadarko E & P Company Inc.	Rig Supply	32.2	-94.43361	280	65	40	1	1.6	313	248	140	1.8
1388	92084	Penn Virginia	Rig Supply	32.355277	-94.283888	240	40	100	1	0.4	77	76	60	1.3
1389	92004	Danmark Energy L. P.	Rig Supply	32.266666	-94.500277	400	55	90	1	0.6	118	109	120	0.9
1390	91997	Basa Resources, Inc.	Rig Supply	32.050277	-94.516666	330	55	110	1	0.5	96	92	110	0.8
1391	91926	Comstock Oil and Gas Company	Rig Supply	32.23361	-94.483333	420	55	110	1	0.5	96	92	140	0.7
1392	91854	O'BENCO	Rig Supply	32.417221	-94.385555	360	85	125	1	0.7	131	119	100	1.2
1393	91849	Penn Virginia	Rig Supply	32.358055	-94.287221	240	65	100	1	0.7	125	115	100	1.1
1394	91679	Chesapeake Operating, Inc.	Rig Supply	32.118332	-94.480832	360	40	100	1	0.4	77	76	100	0.8
1395	91511	Danmark Energy L. P.	Rig Supply	32.266943	-94.516943	190	65	40	1	1.6	313	248	110	2.3
1396	91508	Anadarko E & P Company Inc.	Rig Supply	32.000277	-94.3	330	50	95	1	0.5	101	96	110	0.9
1397	91489	Chevron Usa Production	Rig Supply	32.3	-94.433333	480	52	71	1	0.7	141	127	200	0.6
1398	91385	BARRY LANGFORD	Rig Supply	32.0625	-94.420832	230	30	20	2	1.5	289	232	20	11.6
1399	90979	Chevron Usa Production	Rig Supply	32.23361	-94.4	220	65	40	1	1.6	313	248	120	2.1
1400	90792	XTO Energy	Rig Supply	32.188888	-94.499444	160	55	1	1	55.0	10,588	4,783	60	79.7
1401	90790	Lacy Operations	Rig Supply	32.251666	-94.333054	320	10	1	1	10.0	1,925	1,142	160	7.1
1402	90673	Will Drill Production	Rig Supply	32.019166	-94.05	200	70	15	1	4.7	898	602	90	6.7
1403	90358	Anadarko E & P Company Inc.	Rig Supply	32.166943	-94.416666	340	55	110	1	0.5	96	92	140	0.7
1404	90086	Steve Milhauser	Rig Supply	32.133333	-94.550277	280	25	67	1	0.4	72	72	140	0.5
1405	90068	Anadarko E & P Company Inc.	Rig Supply	32.15	-94.433333	220	60	48	1	1.3	241	199	140	1.4
1406	90067	Chevron Usa Production	Rig Supply	32.233333	-94.4	400	60	90	1	0.7	128	117	120	1.0
1407	89983	Goodrich Petroleum	Rig Supply	32.15	-94.55	460	60	110	1	0.5	105	99	160	0.6
1408	89798	Basa Resources, Inc.	Rig Supply	32.05	-94.53361	380	50	90	1	0.6	107	101	120	0.8
1409	89705	Anadarko E & P Company Inc.	Rig Supply	32.116943	-94.4	260	60	40	1	1.5	289	232	150	1.5
1410	89581	Goodrich Petroleum	Rig Supply	32.200277	-94.566666	260	60	110	1	0.5	105	99	120	0.8
1411	89572	Preston Exploration	Rig Supply	32.1	-94.48361	200	50	70	1	0.7	138	124	130	1.0
1412	88843	Will Drill Production	Rig Supply	31.994444	-94.075277	220	80	15	0.5	5.3	1,027	674	90	7.5
1413	88773	Chad Nations	Domestic	32.08361	-94.516943	440	20	90	1	0.2	43	47	40	1.2
1414	88709	Comstock Oil and Gas Company	Rig Supply	32.23361	-94.48361	380	50	58	1	0.9	166	146	120	1.2

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1415	88704	Comstock Oil and Gas Company	Rig Supply	32.23361	-94.5125	560	60	135	1	0.4	86	84	140	0.6
1416	88693	Anadarko E & P Company Inc.	Rig Supply	32.166943	-94.416943	340	60	85	1	0.7	136	123	140	0.9
1417	87503	Chevron Texaco	Rig Supply	32.266388	-94.445833	330	65	185	2	0.4	68	69	70	1.0
1418	87496	Devon Energy	Rig Supply	32.28111	-94.170832	170	70	106	2	0.7	127	117	90	1.3
1419	87334	XTO Energy	Rig Supply	32.106944	-94.328888	220	70	1	1	70.0	13,476	5,857	70	83.7
1420	87332	Enduring Resources	Rig Supply	32.024999	-94.608055	500	60	1	1	60.0	11,551	5,146	100	51.5
1421	87284	ME Operating Services Inc.	Rig Supply	32.146388	-95.090277	120	60	10	1	6.0	1,155	744	110	6.8
1422	87129	Devon Energy	Rig Supply	32.213333	-94.29361	70	80	57	2	1.4	270	220	30	7.3
1423	86296	XTO Energy	Rig Supply	32.120554	-94.333888	210	55	1	1	55.0	10,588	4,783	60	79.7
1424	86133	Chevron Usa Production	Rig Supply	32.150277	-94.450277	360	55	90	1	0.6	118	109	120	0.9
1425	86127	Chevron Usa Production	Rig Supply	32.15	-94.483333	400	50	130	1	0.4	74	74	200	0.4
1426	86086	Basa Resources, Inc.	Rig Supply	32.05	-94.533333	240	50	70	1	0.7	138	124	170	0.7
1427	86079	Chesapeake Operating Inc.	Rig Supply	32.116666	-94.516943	460	55	115	1	0.5	92	89	120	0.7
1428	86066	Preston Exploration	Rig Supply	32.033333	-94.23361	220	65	80	1	0.8	156	139	160	0.9
1429	86064	Chesapeake Operating Inc.	Rig Supply	32.016666	-94.266666	320	60	85	1	0.7	136	123	120	1.0
1430	85467	Valance Operating	Rig Supply	32.285277	-94.389444	360	70	180	2	0.4	75	75	80	0.9
1431	85426	Devon Energy	Rig Supply	32.145833	-94.290833	170	65	104	2	0.6	120	111	70	1.6
1432	85417	Devon Energy	Rig Supply	32.100833	-94.377777	350	65	226	2	0.3	55	58	100	0.6
1433	85100	AC Exploration, LLC	Rig Supply	32.167221	-94.527221	420	80	15	1	5.3	1,027	674	120	5.6
1434	85090	Samson Lone Star	Rig Supply	32.410833	-94.141944	280	70	25	1	2.8	539	392	100	3.9
1435	84847	Goodrich Petroleum	Rig Supply	32.069721	-94.156388	243	50	30	2	1.7	321	254	93	2.7
1436	83852	Peoples Energy Production	Rig Supply	32.019721	-94.358888	260	50	1	1	50.0	9,626	4,415	40	110.4
1437	83627	Basa Resources, Inc.	Rig Supply	32.066666	-94.466943	520	65	260	1	0.3	48	52	180	0.3
1438	83587	Chinn Exploration	Rig Supply	32.283054	-94.407222	300	80	25	1	3.2	616	439	100	4.4
1439	83360	AC Exploration, LLC	Rig Supply	32.2	-94.537499	280	70	25	1	2.8	539	392	110	3.6
1440	83358	Chinn Exploration	Rig Supply	31.289166	-94.405833	280	80	25	1	3.2	616	439	100	4.4
1441	83357	Chinn Exploration	Rig Supply	31.289166	-94.405555	100	40	20	1	2.0	385	296	80	3.7
1442	83355	Block T Petroleum	Rig Supply	32.361666	-94.644444	240	70	10	1	7.0	1,348	847	90	9.4
1443	83354	Block T Petroleum	Rig Supply	32.361666	-94.644444	240	70	10	1	7.0	1,348	847	90	9.4
1444	83185	Stroud Energy	Rig Supply	32.203333	-94.527777	320	75	27	0.5	2.8	535	389	100	3.9
1445	83124	Clayton W.S.C.	Public Supply	32.139444	-94.383054	532	104	128	36	0.8	156	139	99	1.4
1446	83044	Goodrich Petroleum	Rig Supply	32.243055	-94.555277	403	70	100	2	0.7	135	122	123	1.0
1447	82999	URS Field Services	Industrial	32.186388	-94.2575	600	18	130	1	0.1	27	31	90	0.3
1448	82967	Preston Exploration	Rig Supply	32.111111	-94.466666	360	85	55	1	1.5	298	238	180	1.3
1449	82470	Chevron Usa Production	Rig Supply	32.150277	-94.466943	360	65	160	1	0.4	78	77	180	0.4
1450	81358	Pioneer Drilling	Industrial	32.072221	-94.503888	260	60	100	1	0.6	116	108	160	0.7
1451	80312	Basa Resources, Inc.	Rig Supply	32.05	-94.48361	220	65	100	1	0.7	125	115	80	1.4
1452	80311	Anadarko E & P Production Company	Rig Supply	32.183333	-94.383333	200	70	80	1	0.9	168	148	80	1.8
1453	80184	Goodrich Petroleum	Rig Supply	32.168054	-94.606111	452	60	2	1	30.0	5,775	2,875	82	35.1
1454	80170	Chesapeake Operating Inc.	Rig Supply	32.130554	-94.486666	320	80	10	1	8.0	1,540	947	90	10.5
1455	79485	Basa Resources, Inc.	Rig Supply	32.05	-94.48361	220	70	80	1	0.9	168	148	80	1.8
1456	78942	Basa Resources, Inc.	Rig Supply	32.172221	-94.517221	2400	60	35	1	1.7	330	260	100	2.6
1457	78824	Anadarko E & P Company	Rig Supply	32.13361	-94.313055	220	50	65	1	0.8	148	132	120	1.1
1458	78514	R. Lacy Inc.	Rig Supply	32.27361	-94.331666	300	55	65	1	0.8	163	144	140	1.0
1459	78483	Anadarko E & P Production Company	Rig Supply	32.403611	-94.542499	260	50	1	1	50.0	9,626	4,415	215	20.5
1460	78477	Anadarko E & P Production Company	Rig Supply	32.012222	-94.317499	260	65	40	1	1.6	313	248	160	1.6
1461	78308	Samson Lone Star	Rig Supply	32.224166	-94.170832	200	60	15	1	4.0	770	529	120	4.4
1462	78294	Don Gibson	Domestic	31.977777	-94.395833	380	50	25	1	2.0	385	296	110	2.7
1463	78284	AC Exploration, LLC	Rig Supply	32.167221	-94.52111	380	80	10	1	8.0	1,540	947	90	10.5
1464	78282	Mathias Service Co.	Industrial	32.180832	-94.336666	100	100	10	1	10.0	1,925	1,142	80	14.3
1465	77869	Goodrich Petroleum	Rig Supply	32.213333	-94.606944	332	50	2	1	25.0	4,813	2,466	82	30.1
1466	77271	Taylor, Wrey	Domestic	32.341944	-94.579443	280	20	93	1	0.2	41	45	80	0.6
1467	77195	Samson Lone Star	Rig Supply	32.362222	-94.109722	120	100	12	1	8.3	1,604	980	80	12.3
1468	76610	R. Lacy Inc.	Rig Supply	32.278332	-94.374999	260	60	85	1	0.7	136	123	120	1.0
1469	76492	Basa Resources, Inc.	Rig Supply	32.172221	-94.517221	200	70	40	1	1.8	337	264	120	2.2
1470	76481	Samson Lone Star	Rig Supply	32.357777	-94.072499	200	80	25	1	3.2	616	439	120	3.7
1471	76461	Anadarko E & P Production Company	Rig Supply	32.213888	-94.38111	190	50	75	1	0.7	128	117	110	1.1
1472	76459	Anadarko E & P Production Company	Rig Supply	32.012222	-94.317499	260	65	40	1	1.6	313	248	120	2.1
1473	76452	Anadarko E & P Production Company	Rig Supply	32.169166	-94.395555	320	65	110	1	0.6	114	106	120	0.9
1474	76142	Devon Energy	Rig Supply	32.161666	-94.306666	150	80	77	2	1.0	200	171	100	1.7
1475	76047	Devon Energy	Rig Supply	32.18611	-94.346944		70	80	2	0.9	168	148	80	1.8
1476	76036	Stroud Energy	Rig Supply	32.363611	-94.096388	180	60	114	2	0.5	101	96	80	1.2
1477	76033	Devon Energy	Rig Supply	32.1025	-94.372777	200	25	139	2	0.2	35	39	50	0.8
1478	76031	Devon Energy	Rig Supply	32.078054	-94.316943	120	70	77	2	0.9	175	152	50	3.0
1479	75850	Devon Energy	Rig Supply	32.213333	-94.340555	200	80	144	2	0.6	107	101	70	1.4
1480	75847	Classic Resources	Rig Supply	32.170832	-94.311111	120	70	88	2	0.8	153	136	50	2.7
1481	75807	Goodrich Petroleum	Rig Supply	31.164444	-94.589166	402	70	10	2	7.0	1,348	847	40	21.2
1482	75805	Goodrich Petroleum	Rig Supply	32.180832	-94.606111	442	60	5	2	12.0	2,310	1,331	62	21.5
1483	75803	Goodrich Petroleum	Rig Supply	32.25	-94.546944	452	65	10	2	6.5	1,251	796	70	11.4
1484	75802	Goodrich Petroleum	Rig Supply	32.188333	-94.595555	582	75	10	2	7.5	1,444	897	80	11.2
1485	75797	Classic Energy	Rig Supply	32.113611	-94.33111	220	70	73	2	1.0	185	159	70	2.3
1486	75796	Goodrich Petroleum	Rig Supply	32.154722	-94.589166	403	65	10	2	6.5	1,251	796	60	13.3
1487	75794	Devon Energy	Rig Supply	32.115833	-94.378888	240	65	178	2	0.4	70	71	60	1.2
1488	75793	Goodrich Petroleum	Rig Supply	32.214444	-94.7075	443	70	5	2	14.0	2,695	1,515	63	24.1
1489	75728	AC Exploration	Rig Supply	32.056944	-94.517499	385	80	25	1	3.2	616	439	125	3.5
1490	75722	Devon Energy	Rig Supply	32.155	-94.300277	70	80	53	2	1.5	291	233	35	6.7
1491	75719	Devon Energy	Rig Supply	32.050277	-94.338055	300	18	278	2	0.1	12	17	60	0.3
1492	75698	Goodrich Petroleum	Rig Supply	32.214166	-94.639444	592	75	10	2	7.5	1,444	897	62	14.5
1493	75591	Devon Energy	Rig Supply	32.252777	-94.242777	120	70	94	2	0.7	143	129	60	2.1
1494	75470	Goodrich Petroleum	Rig Supply	32.223888	-94.571666	420	60	115	1	0.5	100	96	240	0.4
1495	75463	Devon Energy	Rig Supply	32.193055	-94.328888	220	80	95	2	0.8	162	143	70	2.0
1496	75394	Devon Energy	Rig Supply	32.205277	-94.348055	230	80	116	2	0.7	133	121	140	0.9
1497	75216	Cordray, Jack	Domestic	32.390833	-94.053888	170	75	85	1	0.9	170	149	65	2.3
1498	75194	Dixon, Jason and Misty	Domestic	32.2575	-94.437499	200	15	62	1	0.2	47	50	120	0.4
1499	74186	AC Exploration, LLC	Rig Supply	32.181388	-94.535833	230	60	25	1	2.4	462	344	30	11.5
1500	74184	Stroud Energy	Rig Supply	32.202222	-94.524166	265	80	15	1	5.3	1,027	674	105	6.4
1501	73735	Hunt Petroleum	Industrial	32.308055	-94.274443	320	50	100	1	0.5	96	92	310	0.3
1502	73715	Anadarko E & P Co., LP	Industrial	32.195555	-94.424999	200	65	60	1	1.1	209	177	160	1.1
1503	73554	Chalker Energy Partners, LP	Rig Supply	32.032777	-94.214444	220	105	65	1	1.6	311	247	120	2.1
1504	73553	Anadarko E & P Co., LP	Industrial	32.220554	-94.381388	220	60	100	1	0.6	116	108	140	0.8
1505	73545	Pinnergy, Inc.	Rig Supply	32.119999	-94.59111	320	90	55	1	1.6	315	250	160	1.6
1506	73542	Goodrich Petroleum	Rig Supply	32.209166	-94.560833	360	55	125	1	0.4	85	83	160	0.5
1507	72970	Valence Operating Company	Rig Supply	32.277499	-94.397777	280	80	55	1	1.5	280	226	160	1.4
1508	72964	Goodrich Petroleum	Rig Supply	32.212777	-94.53861	420	75	50	1	1.5	289	232	140	1.7
1509	72961	Comstock Oil & Gac	Rig Supply	32.2125	-94.512222	300	115	60	1	1.9	369	285	140	2.0
1510	72960	Chalker Energy Partners, LP	Rig Supply	32.385277	-94.335555	320	85	55	1	1.5	298	238	150	1.6
1511	72947	Anadarko E & P Company, Inc.	Rig Supply	32.134166	-94.2625	100	30	50	1	0.6	116	108	80	1.3
1512	72946	Anadarko E & P Company, Inc.	Rig Supply	32.155555	-94.401944	320	75	55	1	1.4	263	214	120	1.8
1513	72788	Taylor	Rig Supply	32.15	-94.577221	220	55	70	1	0.8	151	135	120	1.1
1514	72171	Stroud Energy	Rig Supply	32.366388	-94.102777	100	80	10	1	8.0	1,540	947	80	11.8
1515	70421	Comstock Oil and Gas	Rig Supply	32.247221	-94.502777	420	60	75	1	0.8	154	137	140	1.0

Record ID	Tracking Number	Owner Name	Proposed Use	Lat (NAD83)	Long (NAD83)	Well Depth (ft)	Yield (gpm)	Drawdown (ft)	Well Test Duration (hours)	Specific Capacity (gpm/ft)	Specific Capacity (ft^2/day)	Estimated Transmissivity (ft^2/day)	Saturated Thickness (ft)	Estimated Hydraulic Conductivity (ft/day)
1516	70218	Samson Lone Star	Rig Supply	32.353611	-94.08111	140	65	10	1	6.5	1,251	796	100	8.0
1517	69854	AC Exploration, LLC	Rig Supply	32.169721	-94.519443	360	80	10	1	8.0	1,540	947	90	10.5
1518	69363	Anadarko E & P Co LP	Industrial	32.09611	-94.32111	260	65	65	1	1.0	193	165	240	0.7
1519	69043	Musick, Len	Domestic	32.320277	-94.163055	137	30	93	1	0.3	62	64	80	0.8
1520	68828	Anadarko E & P Co., LP	Industrial	32.180277	-94.428888	300	60	75	1	0.8	154	137	120	1.1
1521	68685	AC Exploration	Rig Supply	32.174721	-94.538055	285	100	15	1	6.7	1,283	813	100	8.1
1522	68667	Samson Lone Star	Rig Supply	32.377777	-94.094166	180	100	5	1	20.0	3,850	2,045	90	22.7
1523	68612	Anadarko E & P Co. LP	Industrial	32.192777	-94.436388	360	60	110	1	0.5	105	99	240	0.4
1524	67653	Woodbine Production	Rig Supply	32.279443	-94.381388	145	70	15	1	4.7	898	602	85	7.1
1525	67652	Woodbine Production	Rig Supply	32.279443	-94.381388	145	70	15	1	4.7	898	602	85	7.1
1526	67651	Woodbine Production	Rig Supply	32.279443	-94.381388	145	70	15	1	4.7	898	602	85	7.1
1527	65560	CT Investco LLC	Rig Supply	32.051666	-94.293333	220	35	15	1	2.3	449	336	30	11.2
1528	65547	Samson Lone Star	Rig Supply	32.362222	-94.080832	140	80	15	1	5.3	1,027	674	100	6.7
1529	65446	Danmark Energy, LP	Rig Supply	32.270832	-94.519999	580	60	145	1	0.4	80	79	180	0.4
1530	64208	Anadarko E & P Co LP	Industrial	32.090555	-94.320277	240	65	70	1	0.9	179	155	215	0.7
1531	64205	Anadarko E & P Co LP	Industrial	32.196666	-94.431388	220	60	60	1	1.0	193	165	200	0.8
1532	63674	James Crooks	Domestic	32.29861	-94.225554	175	150	20	1	7.5	1,444	897	75	12.0
1533	63487	Kivard, Inc.	Domestic	32.258611	-94.2075	160	45	10	1	4.5	866	584	80	7.3
1534	63110	Kivard, Inc.	Domestic	32.251388	-94.222777	225	85	15	1	5.7	1,091	709	105	6.8
1535	62684	Penn Virginia	Rig Supply	32.33861	-94.282777	162	65	2	1	32.5	6,257	3,075	82	37.5
1536	62206	Chalker Energy Partners, LP	Rig Supply	32.035555	-94.208888	200	70	110	1	0.6	123	113	120	0.9
1537	62140	Samson Lone Star	Rig Supply	32.373888	-94.082221	160	100	5	1	20.0	3,850	2,045	90	22.7
1538	60976	Goodrich Petroleum	Rig Supply	32.262777	-94.508611	460	55	110	1	0.5	96	92	120	0.8
1539	60959	Buffco Production	Rig Supply	32.007777	-94.307777	190	65	75	1	0.9	167	146	150	1.0
1540	60958	Anadarko E & P Company, Inc.	Rig Supply	32.078332	-94.304444	220	65	70	1	0.9	179	155	170	0.9
1541	59074	CT Invesco LLC	Rig Supply	32.171943	-94.285833	55	45	5	1	9.0	1,733	1,046	37	28.3
1542	58652	Langston Drilling Company	Rig Supply	32.235277	-94.328054	100	70	25	1	2.8	539	392	80	4.9
1543	58650	Anadarko E & P Company, LP	Rig Supply	32.094444	-94.303888	280	65	85	1	0.8	147	132	200	0.7
1544	58513	AC Exploration	Rig Supply	32.320832	-94.390833	203	70	2	1	35.0	6,738	3,272	83	39.4
1545	58342	Encana, Inc.	Rig Supply	32.433054	-94.334721	290	85	1	1	85.0	16,364	6,895	90	76.6
1546	58133	Anadarko E & P Company, LP	Rig Supply	32.181943	-94.420832	180	60	45	1	1.3	257	210	100	2.1
1547	58132	Ark-La-Tex Energy, LLC	Rig Supply	32.06	-94.512222	320	65	80	1	0.8	156	139	180	0.8
1548	58126	Goodrich Petroleum	Rig Supply	32.010555	-94.47361	300	65	40	1	1.6	313	248	140	1.8
1549	58125	Hunt Petroleum Corporation	Rig Supply	32.292777	-94.280832	120	70	40	1	1.8	337	264	100	2.6
1550	58044	Anadarko E & P Co., LP	Industrial	32.19111	-94.447499	340	60	80	1	0.8	144	130	240	0.5
1551	57693	Panola County Airport c/o Joe Foster	Domestic	32.166666	-94.301111	302	22	54	1	0.4	78	78	162	0.5
1552	57409	Anadarko E & P Co LP	Irrigation	32.115	-94.409166	200	60	50	1	1.2	231	192	190	1.0
1553	57406	Carthage Country Club	Irrigation	32.163611	-94.31	240	65	60	1	1.1	209	177	140	1.3
1554	57032	Ocean Energy	Industrial	32.073888	-94.438333	300	60	75	1	0.8	154	137	290	0.5
1555	56091	Buffco	Rig Supply	32.099721	-94.18861	100	80	10	1	8.0	1,540	947	85	11.1
1556	55761	Hunt Petroleum Company	Rig Supply	32.157222	-94.337499	100	60	40	1	1.5	289	232	85	2.7
1557	55758	Plains Exploration & Production Co.	Rig Supply	32.24111	-94.523888	420	60	75	1	0.8	154	137	160	0.9
1558	55646	Josh Frazier	Domestic	32.139444	-94.111388	262	40	51	1	0.8	151	135	92	1.5
1559	55166	Devon Energy	Rig Supply	32.0625	-94.379443	360	40	176	2	0.2	44	48	130	0.4
1560	55162	Chevron Texaco	Rig Supply	32.169721	-94.496388	140	80	104	2	0.8	148	132	60	2.2
1561	55083	Devon Energy	Rig Supply	32.179443	-94.295833	175	70	126	2	0.6	107	101	100	1.0
1562	55078	Chevron Texaco	Rig Supply	32.29111	-94.429166	300	60	3	2	20.0	3,850	2,045	100	20.4
1563	55064	Devon Energy	Rig Supply	32.1125	-94.404166	120	70	78	2	0.9	173	151	60	2.5
1564	54010	James Broadus	Domestic	32.122221	-94.329443	200	30	40	1	0.8	144	130	95	1.4
1565	53818	Chevron Texaco	Rig Supply	32.252222	-94.470277	480	70	183	2	0.4	74	74	140	0.5
1566	53807	Debbie Baugan	Domestic	32.173888	-94.509166	315	8	150	2	0.1	10	14	30	0.5
1567	53790	Devon Energy	Rig Supply	32.16861	-94.275277	160	75	105	2	0.7	138	124	60	2.1
1568	53607	Harold Wilson, Jr.	Domestic	32.279999	-94.368054	400	35	100	2	0.4	67	68	125	0.5
1569	53588	Bradley Davidson	Domestic	32.276943	-94.370554	320	15	40	2	0.4	72	72	45	1.6
1570	53269	Valence Operating Company	Rig Supply	32.294444	-94.391666	340	70	40	1	1.8	337	264	120	2.2
1571	53259	Hunt Petroleum Corporation	Rig Supply	32.28611	-94.273332	160	70	45	1	1.6	299	239	140	1.7
1572	53257	Anadarko E & P Company, Inc.	Rig Supply	32.180554	-94.398333	200	70	55	1	1.3	245	202	140	1.4
1573	53256	Anadarko E & P Company, Inc.	Rig Supply	32.011388	-94.308611	200	60	40	1	1.5	289	232	140	1.7
1574	53255	BASA Resources, Inc.	Rig Supply	32.169721	-94.513888	200	60	55	1	1.1	210	178	120	1.5
1575	52630	Linda Reed	Domestic	32.169443	-94.455277	52	6	20	1	0.3	58	60	17	3.5
1576	52564	Rodney Boutin	Domestic	32.006944	-94.242777	90	20	40	3	0.5	96	92	30	3.1
1577	52557	Cecil Langford	Domestic	32.059444	-94.401666	124	10	25	2	0.4	77	76	29	2.6
1578	52554	Jay Coco	Domestic	32.191388	-94.342777	400	20	30	2	0.7	128	117	42	2.8
1579	52553	Anthony Templeton	Domestic	32.102222	-94.53861	380	20	30	2	0.7	128	117	50	2.3
1580	52534	Wayne Chappel	Irrigation	32.134444	-94.405833	235	16	150	2	0.1	21	25	38	0.7
1581	52405	Brewer, Donnie	Domestic	32.325832	-94.134999	254	25	73	1	0.3	66	67	165	0.4
1582	52241	Samson Lone Star	Rig Supply	32.261944	-94.153333	100	80	10	1	8.0	1,540	947	85	11.1
1583	52132	XTO Energy, Inc.	Rig Supply	32.129166	-94.342221	400	70	40	1	1.8	337	264	200	1.3
1584	51646	Anadarko E & P Company, Inc.	Rig Supply	32.219443	-94.384999	220	60	105	1	0.6	110	103	130	0.8
1585	51197	Samson Lone Star	Rig Supply	32.387221	-94.077499	200	100	5	1	20.0	3,850	2,045	90	22.7
1586	51193	Samson Lone Star	Rig Supply	32.220554	-94.179721	240	100	30	1	3.3	642	454	90	5.0
1587	50842	Basa Resources, Inc.	Rig Supply	32.06	-94.516111	360	60	110	1	0.5	105	99	130	0.8
1588	50840	Anadarko E & P Company, Inc.	Rig Supply	32.142777	-94.512222	250	70	90	1	0.8	150	134	170	0.8
1589	50838	Anadarko E & P Company, Inc.	Rig Supply	32.199444	-94.369443	250	60	75	1	0.8	154	137	110	1.2
1590	50835	Anadarko E & P Company, Inc.	Rig Supply	32.170554	-94.347221	240	70	45	1	1.6	299	239	160	1.5
1591	50834	Anadarko E & P Company, Inc.	Rig Supply	32.219443	-94.384999	220	60	105	1	0.6	110	103	130	0.8
1592	49335	Anadarko E & P Company, Inc.	Rig Supply	32.2025	-94.370832	220	60	45	1	1.3	257	210	120	1.8
1593	49334	Anadarko E & P Company, Inc.	Rig Supply	32.100277	-94.309444	300	60	90	1	0.7	128	117	180	0.7
1594	48991	McDaniel, Robert	Domestic	32.015833	-94.308333	350	45	80	1	0.6	108	102	70	1.5
1595	47420	Anadarko E & P Company, Inc.	Rig Supply	32.205555	-94.377499	220	75	30	1	2.5	481	357	150	2.4
1596	47377	Goodrich Petroleum	Rig Supply	32.176943	-94.596944	360	70	40	1	1.8	337	264	200	1.3
1597	47371	Pioneer Drilling Company, Ltd.	Rig Supply	32.086944	-94.496944	340	60	80	1	0.8	144	130	140	0.9
1598	47365	Hunt Petroleum Corporation	Rig Supply	32.305	-94.291388	280	75	110	1	0.7	131	120	120	1.0
1599	47360	Goodrich Petroleum	Rig Supply	32.263333	-94.524443	180	60	20	1	3.0	578	416	100	4.2
1600	47357	Anadarko E & P Company, Inc.	Rig Supply	32.085833	-94.303055	200	60	35	1	1.7	330	260	100	2.6
1601	47353	Glassell Producing Company	Rig Supply	32.230832	-94.203333	330	50	100	1	0.5	96	92	210	0.4
1602	47331	Anadarko E & P Company	Rig Supply	32.122221	-94.31	320	50	60	1	0.8	160	142	120	1.2
1603	47182	Hunt Petroleum Corporation	Rig Supply	32.301666	-94.316388	280	80	50	1	1.6	308	245	130	1.9
1604	46723	Hunt Petroleum Corporation	Rig Supply	32.301666	-94.316388	280	80	50	1	1.6	308	245	130	1.9
1605	45534	Newfield Exploration	Rig Supply	31.198055	-94.495277	226	70	60	1	1.2	225	188	66	2.8
1606	45485	Newfield Exploration	Rig Supply	32.174443	-94.507777	210	60	35	1	1.7	330	260	135	1.9
1607	45303	Goodrich Petroleum	Rig Supply	32.265833	-94.514166	180	70	30	1	2.3	449	336	120	2.8
1608	45302	Pioneer Drilling Company	Rig Supply	31.998888	-94.512777	280	70	40	1	1.8	337	264	80	3.3
1609	45300	Hunt Petroleum Corporation	Rig Supply	32.333054	-94.28361	320	70	40	1	1.8	337	264	140	1.9
1610	45192	Anadarko E & P Co., LP	Rig Supply	32.100833	-94.300277	460	60	110	1	0.5	105	99	380	0.3
1611	45191	Anadarko E & P Co., LP	Rig Supply	32.063888	-94.303333	220	60	70	1	0.9	165	145	160	0.9
1612	44969	Ocean Energy	Industrial	32.076388	-94.346666	380	60	120	1	0.5	96	92	180	0.5
1613	44451	Samson	Rig Supply	32.350833	-94.083888	160	80	10	1	8.0	1,540	947	90	10.5
1614	44092	Goodrich Petroleum	Rig Supply	32.172777	-94.615277	360	70	40	1	1.8	337	264	240	1.1
1615	43596	Anadarko E & P Co., LP	Rig Supply	32.17361	-94.365	270	80	55	1	1.5	280	226	150	1.5
1616	43533	Anadarko E & P Co.	Industrial	32.172221	-94.359444	300	100	20	1	5.0	963	638	200	3.2

Record ID	Tracking Number	Owner Name	Proposed Use	Lat (NAD83)	Long (NAD83)	Well Depth (ft)	Yield (gpm)	Drawdown (ft)	Well Test Duration (hours)	Specific Capacity (gpm/ft)	Specific Capacity (ft^2/day)	Estimated Transmissivity (ft^2/day)	Saturated Thickness (ft)	Estimated Hydraulic Conductivity (ft/day)
1617	43488	Hunt Petroleum	Rig Supply	32.296388	-94.297221	130	70	30	1	2.3	449	336	110	3.1
1618	43396	Anadarko E & P Co.	Industrial	32.155833	-94.402222	320	65	100	1	0.7	125	115	250	0.5
1619	43389	Anadarko E& P Co.	Industrial	32.145555	-94.429999	320	70	115	1	0.6	117	109	240	0.5
1620	43323	Samson Lone Star	Industrial	32.317221	-94.17111	240	65	75	1	0.9	167	146	220	0.7
1621	43314	Anadarko E & P Co.	Industrial	32.185833	-94.419443	200	60	20	1	3.0	578	416	160	2.6
1622	43311	Anadarko E & P Co.	Industrial	32.091944	-94.322221	500	60	40	1	1.5	289	232	320	0.7
1623	43150	XTO	Rig Supply	32.119443	-94.358611	320	60	40	1	1.5	289	232	200	1.2
1624	43145	Anadarko E & P Co., LP	Rig Supply	32.092221	-94.299444	220	70	30	1	2.3	449	336	120	2.8
1625	43137	Anadarko E & P Co., LP	Rig Supply	32.137777	-94.492777	340	60	80	1	0.8	144	130	100	1.3
1626	43128	Anadarko E & P Co., LP	Rig Supply	32.18361	-94.373054	210	20	50	1	0.4	77	76	130	0.6
1627	43070	ANADARKO E & P CO., LP	Industrial	32.188333	-94.453055	300	65	75	1	0.9	167	146	30	4.9
1628	43063	GOODRICH PETROLEUM	Industrial	32.267221	-94.531666	220	65	60	1	1.1	209	177	160	1.1
1629	42810	Samson	Rig Supply	32.231388	-94.160833	180	80	20	1	4.0	770	529	85	6.2
1630	42568	Samson	Rig Supply	32.383054	-94.106111	220	70	15	1	4.7	898	602	110	5.5
1631	42357	Anadarko E & P Co., LP	Rig Supply	32.18361	-94.373054	210	70	20	1	3.5	674	473	140	3.4
1632	41269	Pioneer Drilling Company	Rig Supply	32.015833	-94.500833	410	70	60	1	1.2	225	188	130	1.4
1633	41266	Anadarko E & P Co., LP	Rig Supply	32.210555	-94.497499	220	60	50	1	1.2	231	192	140	1.4
1634	40719	Martin Spanial	Domestic	32.244444	-94.142221	342	21	43	1	0.5	94	90	317	0.3
1635	40581	Anadarko E & P Co., LP	Rig Supply	32.146944	-94.396944	200	70	40	1	1.8	337	264	180	1.5
1636	40569	Anadarko, E & P Co., LP	Rig Supply	32.195555	-94.420554	140	60	30	1	2.0	385	296	100	3.0
1637	40568	Anadarko, E & P Co., LP	Rig Supply	32.195555	-94.420554	140	60	30	1	2.0	385	296	100	3.0
1638	40562	Anadarko E & P Company, Inc.	Rig Supply	32.192221	-94.433054	220	60	40	1	1.5	289	232	180	1.3
1639	40441	SAMSON	Rig Supply	32.384166	-94.149444	260	100	40	1	2.5	481	357	90	4.0
1640	40379	SAMSON	Rig Supply	32.536944	-94.142221	426	10	426	1	0.0	5	7	86	0.1
1641	36815	Brumble, Joe	Domestic	32.312777	-94.108333	185	7	152	1	0.0	9	12	165	0.1
1642	36705	Samson Lone Star	Rig Supply	32.36	-94.137777	160	50	10	1	5.0	963	638	65	9.8
1643	34814	Martex Drlg. Co.	Rig Supply	32.359444	-94.460277	150	65	87	2	0.7	144	129	70	1.8
1644	34724	HUNT PETROLEUM	Industrial	32.309722	-94.291666	340	60	80	1	0.8	144	130	220	0.6
1645	34712	ANADARKO E&P COMPANY	Industrial	32.197777	-94.42611	240	60	65	1	0.9	178	154	230	0.7
1646	34615	SAMSON	Rig Supply	32.228888	-94.149444	140	50	20	1	2.5	481	357	70	5.1
1647	33821	HUNT OIL CO.	Industrial	32.3075	-94.28611	140	60	50	1	1.2	231	192	130	1.5
1648	33735	CLASSIC OIL & GAS	Rig Supply	32.125554	-94.339444	220	70	152	2	0.5	89	86	80	1.1
1649	33732	DEVON ENERGY	Rig Supply	32.191944	-94.324166	70	20	44	2	0.5	88	85	45	1.9
1650	33726	SAWYER DRILLING & SERVICE	Rig Supply	32.078054	-94.501944	260	70	174	2	0.4	77	77	80	1.0
1651	33720	EASON PRODUCTION CO.	Rig Supply	32.089166	-94.044444	280	80	91	2	0.9	169	148	120	1.2
1652	33718	WYNN CROSBY ENERGY	Rig Supply	32.066111	-94.499166	320	70	168	2	0.4	80	79	120	0.7
1653	33706	Anadarko E & P Co., LP	Rig Supply	32.160555	-94.355	300	60	75	1	0.8	154	137	250	0.5
1654	33524	DEVON ENERGY	Rig Supply	32.175554	-94.31861	180	80	115	2	0.7	134	122	80	1.5
1655	33513	CHEVRON TEXACO	Rig Supply	32.271943	-94.470554	470	70	183	2	0.4	74	74	70	1.1
1656	33508	SAWYER DRILLING & SERVICE	Rig Supply	32.03111	-94.501388	320	60	198	2	0.3	58	61	80	0.8
1657	33493	DEVON ENERGY	Rig Supply	32.051944	-94.39111	320	55	195	2	0.3	54	57	70	0.8
1658	33379	CHEVRON TEXACO	Rig Supply	32.16861	-94.497777	140	80	94	2	0.9	164	144	60	2.4
1659	33367	G&A DRILLING CO.	Rig Supply	32.244999	-94.145555	240	60	168	2	0.4	69	70	170	0.4
1660	33345	MARTEX DRILLING CO.	Rig Supply	32.174721	-94.308333	110	60	51	2	1.2	226	189	70	2.7
1661	33344	DEVON ENERGY	Rig Supply	32.09611	-94.373332	390	40	244	2	0.2	32	36	80	0.5
1662	33082	Anadarko E & P Co., LP	Rig Supply	32.098055	-94.325554	240	65	75	1	0.9	167	146	220	0.7
1663	32088	Ocean Energy	Rig Supply	32.074443	-94.4	300	60	192	2	0.3	60	62	100	0.6
1664	32079	Chevron Texaco	Rig Supply	32.220832	-94.453888	410	80	190	2	0.4	81	80	160	0.5
1665	32076	Classic Oil and Gas	Rig Supply	32.120832	-94.336944	220	75	134	2	0.6	108	101	80	1.3
1666	32072	Chevron Texaco	Rig Supply	32.224999	-94.453888	410	75	233	2	0.3	62	64	110	0.6
1667	32054	Winchester Production	Rig Supply	32.257777	-94.14861	120	70	98	2	0.7	138	124	70	1.8
1668	32052	Devon Energy	Rig Supply	32.153611	-94.291944	70	65	54	1	1.2	232	193	30	6.4
1669	32038	Chevron Texaco	Rig Supply	32.157222	-94.476943	220	75	158	2	0.5	91	88	70	1.3
1670	32035	Debbie Patrick	Rig Supply	32.1625	-94.286944	150	80	59	2	1.4	261	213	100	2.1
1671	32025	Royce Anderson	Domestic	32.149721	-94.3	200	70	115	1	0.6	117	109	60	1.8
1672	32006	Devon Energy	Rig Supply	32.304722	-94.150277	105	70	73	2	1.0	185	159	45	3.5
1673	32005	Chevron Texaco	Rig Supply	32.158888	-94.495277	290	70	173	2	0.4	78	77	60	1.3
1674	31943	Devon Energy	Rig Supply	32.141388	-94.274999	260	60	163	2	0.4	71	71	80	0.9
1675	28706	Bachman, Charles	Domestic	32.275832	-94.355277	320	30	72	1	0.4	80	79	60	1.3
1676	28704	Young, James	Domestic	32.28111	-94.352222	320	15	225	1	0.1	13	17	55	0.3
1677	28338	Haguewood, Daniel and Patrcia	Domestic	32.282221	-94.358333	320	30	128	1	0.2	45	49	80	0.6
1678	28334	Mayhew, Bill	Domestic	32.065	-94.517499	340	20	130	1	0.2	30	34	80	0.4
1679	25838	Rowdy Richmond	Domestic	32.22861	-94.465277	323	35	10	2	3.5	674	473	43	11.0
1680	25554	Jimmy Fruge	Domestic	32.301388	-94.319721	342	100	60	1	1.7	321	254	112	2.3
1681	24860	Anadarko E & P Co., LP	Industrial	32.152222	-94.401666	260	60	70	1	0.9	165	145	100	1.5
1682	21535	Rueben Martin Jr.	Domestic	32.202222	-94.495833	122	45	27	1	1.7	321	254	62	4.1
1683	21456	Anadarko E & P Co., LP	Industrial	32.143333	-94.497777	220	65	85	2	0.8	147	132	210	0.6
1684	21454	Anadarko E & P Co., LP	Industrial	32.205277	-94.391388	260	80	90	1	0.9	171	150	200	0.7
1685	19968	Ocean Energy	Industrial	32.091944	-94.370832	400	60	120	1	0.5	96	92	380	0.2
1686	19302	JIM HORTON	Domestic	32.782499	-97.672221	200	35	1	1	35.0	6,738	3,272	130	25.2
1687	19261	Ocean Energy	Industrial	32.091944	-94.370832	260	60	60	1	1.0	193	165	250	0.7
1688	19229	Anadarko E & P Co., LP	Industrial	32.088055	-94.286944	200	60	50	1	1.2	231	192	190	1.0
1689	11116	Colle, Jimmy and Angie	Domestic	32.047777	-94.304722	230	50	167	1	0.3	58	60	80	0.7
1690	7211	Pioneer Drilling	Industrial	32.102777	-94.53611	320	50	70	1	0.7	138	124	140	0.9
1691	5242	Rachel Stevens	Domestic	32.065833	-94.387221	322	30	142	1	0.2	41	45	122	0.4

APPENDIX E

Guidelines for Well Pair Selection
and Sensor Usage

GUIDELINES FOR WELL PAIR SELECTION AND SENSOR USAGE

Current oil and gas (O&G) industry operations within Panola County include the extraction of groundwater for use in hydraulic fracturing activities. O&G companies have installed groundwater extraction wells in various aquifers within Panola County. In addition to the extraction wells, other wells either previously installed or newly installed are being used by the Panola County Groundwater Conservation District (District) to monitor the changes in groundwater levels resulting from the O&G groundwater extraction activities.

As part of this monitoring by the District, water-level changes over time can be evaluated to obtain estimates of formation transmissivity and storage properties of the pumped aquifer. To perform this data analysis, a production well (PW) and monitoring well (MW) located in close proximity can be selected such that the water-level changes in the MW can be attributed to the extraction of groundwater at the PW.

This document provides guidelines for the selection of a PW and MW pair to monitor (Section 1) and guidelines for the usage of the Aqua TROLL sensor to electronically collect water levels within the pumped aquifer (Section 2).

1.0 Well Pair Selection Guidelines

The following guidelines provide a recommended process for the selection of a PW and MW pair for monitoring of groundwater level changes over time. By selecting a relevant well pair, monitored changes in the groundwater level at the MW along with production volumes and timeframes from the PW can be used to estimate aquifer formation hydraulic properties. The key criteria to use in the well-pair selection process is the depths of the screened intervals, distance between the PW and MW, and distances to other active PWs.

1.1 Screen Depth

For best results, both the PW and MW will need to be screened across similar portions of the aquifer sediments (i.e., same sand intervals or same interbedded intervals). This ensures that there is a direct hydraulic communication between the PW and MW. During the well pair selection process, it will be common for the screened interval depths not to be identical, but they may overlap to some degree. The goal is to select well pairs that are screened across as much of the same sediments as possible. However, this may be restrictive in some locations based on the available wells and their configurations.

1.2 Distance Between Well Pairs

The PW and MW should be located in close enough proximity such that the changes in the groundwater levels within the aquifer due to pumping at the PW are observable at the MW. Groundwater level changes in the MW will be a result of multiple processes. The first is natural fluctuations, such as barometric pressure or earth tides, which can result in daily groundwater level changes on the order of up to a couple feet. The second process is due to groundwater extraction from the PW. The distance from the PW to the MW needs to be sufficiently close, so as to ensure the groundwater level changes caused by the extraction at the PW are significantly large, greater than 3 to 5 feet, such that they are clearly observable and overpower the natural fluctuations. This distance will be based on the formation hydraulic conductivity, which is typically not constant throughout the spatial distribution of the aquifer. However, this should be fairly consistent and will best be determined based on experience from field deployments.

An example spacing distance is based on observed responses from PW Soape 15 and MW Brewster 16. These two wells are located approximately 1,584 ft apart. The pumping at Soape 15 averages approximately 50 gallons per minute. Observed groundwater level changes in Brewster 16 resulting from the extraction at PW Soape 15 are greater than 30 feet. This magnitude of groundwater level change (drawdown) is sufficient to estimate formation hydraulic parameters. Based on the observed magnitude of the groundwater level drawdown, the wells could be significantly further apart, and the impact of the PW on the MW would still be observable. However, as mentioned in Section 1.3 below, the further the distance between the wells, the greater the potential for interference effects from other nearby PWs.

1.3 Distance to additional Production Wells

As noted above, as the distance from the PW and MW pair increases, so does the potential that the groundwater level changes at the MW can be a resultant of more than one PW. If the groundwater level changes in the MW are a result of extraction of groundwater from multiple PWs, these interference effects complicate the analysis for determination of formation hydraulic parameters. Therefore, it is recommended that during the well pair selection process, the MW be located in a region where there is only a single PW nearby.

At some locations within the county, there may not be a well pair that is located at a sufficient distance apart from other PWs, and thus interference effects are observed in the groundwater level changes in the MW. If sufficient groundwater extraction information, such as flow rates and pumping time (on/off), is available from all wells that are relevant PWs, then a more detailed analysis could be conducted to where the interference effects are removed from the data set and estimates of formation hydraulic properties could still be obtained.

2.0 Aqua TROLL Installation and Usage Guidelines

Once the well pair selection process has been completed, the monitoring and collection of the groundwater levels within the selected MW can be undertaken. The PCGCD currently has an In-Situ® Aqua TROLL 200 sensor, which will be used for the electronic monitoring and recording of downhole data within the selected MW.

The following usage guidelines are relevant to the configuration, installation and retrieval of the In-Situ® Aqua TROLL 200 sensor. The sensor is to be submerged in a groundwater well for monitoring of water levels, temperature and specific conductivity. Using the In-Situ® provided Win Situ 5 software, the sensor can be programmed to record data on the Aqua TROLL internal memory and then downloaded to a computer for data processing and viewing.

Section 2.1 provides a list of equipment necessary to properly utilize the sensor. Section 2.2 provides a list of precautions for consideration during usage of the sensor. Section 2.3 lists some pre-installation activities to be conducted prior to mobilizing to the field. Section 2.4 lists a set of recommended steps for downhole installation of the sensor. Section 2.5 describes how to configure the data logger for storing data on the sensor's internal memory. Section 2.6 lists the steps to follow when retrieving the data from the sensor's internal memory. Section 2.7 describes the steps to follow when removing the sensor from the wellbore.

2.1 Equipment List

- Aqua TROLL 200 Sensor
  - measures pressure, temperature, and specific conductivity
  - maximum pressure 100 psig (231 feet)
  - internal data logger
  - internal power source (battery)
- Rugged Twist-Lock Vented Cable
  - communications cable
  - support cable
  - vent tube for atmospheric pressure
  - 200 feet in length
  - cable spool
- Large desiccant cartridge
  - connected to up-hole end of twist-lock cable
  - prevents moisture from vent tube and connector
- TROLL Com adapter
  - Communication device between sensor and computer
- Win Situ 5 software
  - Data acquisition software for configuring and communicating with sensor
- Conductivity Standard
  - Reference fluid with known specific conductivity of 12,890 µS/cm
  - Use to field check senor reading
  - Used to field calibrate sensor (if needed)
- In-Situ web site with complete documentation of the Aqua TROLL 200
  - http://www.in-situ.com/products/water-quality/aqua-troll-instruments/aqua-troll-200-data-logger/overview

2.2 Usage Precautions

- Maximum installation depth is 231 feet below water level (equivalent to a pressure of 100 psig)
- The internal parts of the twist-lock cable and the Aqua TROLL are open to the atmosphere at the connecting ends. These must be kept dry at all times. Moisture getting into the vent tube of the cable or sensor may prevent proper sensor operation and may also damage the equipment.

- Make sure twist-lock connections between the cable, sensor, desiccant cartridge, and/or TROLL Com adapter are secure during deployment.
- When not deployed, keep the red plastic dust caps or a desiccant cartridge attached to the connecting ends of the cable and Aqua TROLL.
- When deployed, secure the large desiccant cartridge to the up-hole end of the cable and periodically replace the desiccant beads.
- Do not bend the twist-lock cable sharply. This can damage the vent tube inside the cable, which prevents the internal parts of the instrument from being open to atmospheric pressure.
- All pressure/water level measurements made are relative to the initial position of the Aqua TROLL within the well, referenced to a manually measured water level made during initial setup. The position of the Aqua TROLL within the well must not move vertically during deployment. If the instrument is moved, the data logger will need to be reconfigured with a new initial/reference position.
- Make sure the cable is fully extended within the well (i.e., not hung up).
- Make sure the excess cable at the surface is secured, so that no slack will fall into the well. Duct tape is a good way to keep the cable static.

2.3 Pre-Installation Activities

- Prior knowledge about the well to be monitored is helpful. For example, knowledge of total well depth, type of surface completion including well cap design, expected water level, and expected drawdown are good things to know before leaving the office.
- Ensure all needed equipment is on hand, including an electric water-level meter (e-line).
- Determine expected installation depth of sensor based on known water level range in well to be monitored.
- Install Win Situ 5 software on a laptop computer to be taken into the field for installation.
- Ensure that all drivers for the TROLL Com adapter have been installed.
- Launch the Win Situ 5 software
- Connect the Aqua Troll sensor to the laptop computer via the TROLL Com adaptor
- Set up a new “Site” prior to installing the sensor in a new well.
    - Click on the “Display the Site List” icon in the upper left-hand portion of the main display area
    - Click on the “Add new Site” icon in the lower left-hand corner of the new window
    - Type in the new Site name in the “Name” box
    - Fill in other information boxes if desired
    - Click on the “Display the Site List” icon on select the Site name just created.
- If desired, check specific conductivity sensor reading against provide standard solution.

2.4 Sensor Installation

- Ensure all connections remain dry and moisture-free during sensor installation.
- If the well has been tightly capped for an extended period of time, uncap it and allow some time (e.g., ~15 minutes) for the water level within the well to equilibrate with the atmosphere.
- With an e-line, take and record a static depth-to-water (DTW) based on the depth below top of casing (BTOC) or depth below standard measurement point (BMP).

- Make sure the Aqua TROLL is securely connected to the down-hole end of the twist-lock cable (the lock should snap shut completely) and lower the instrument into the well.
- Set Aqua TROLL at the desired depth (less than 231 feet below water level)
    - Tape markers have been placed on the twist-lock cable between 50 ft and 175 ft
        - Two pieces of black tape are placed at 50 ft, 100 ft, and 150 ft.
        - One piece of black tape is placed at 25 ft, 125 ft, and 175 ft.
    - Exact depth is not required for accurate readings
    - Ensure the cable is fully extended (hanging straight) and has not coiled up.
- Secure twist-lock cable at surface to prevent sensor from shifting position.
- If sufficient space is available, take and record another DTW measurement with the e-line.
    - If the water level is higher (DTW is lower) than the earlier measurement, the well is probably experiencing a slug effect from the insertion of the instrument. In this case, monitor the water level for several minutes until it approaches the previously measured value and/or stops showing any significant change. When you are confident that the water level is remaining static within a reasonable range (e.g., < 0.1 ft) over the course of several minutes, take and record a measurement to use as the reference DTW for the log setup.

2.5 Data-logger Configuration

- Ensure all connections remain dry and moisture-free during data-logger configuration.
- Launch the Win Situ 5 software on the laptop computer.
- Connect the Aqua TROLL to the laptop computer using the TROLL Com adapter
- Establish connection between the laptop computer and the Aqua TROLL
- To set up a new data-logging file:
    - Click on the “Logging” icon or select View>Logging
    - Click on the “Set up a new log in the connected device” icon located at the bottom left-hand corner of the main window.
    - Ensure the correct Site Name is selected.
    - Enter a unique Log Name to identify the data file.
        - Recommend using the current date as the log name when starting a new log.
    - Select the “Next” arrowhead icon at the bottom of the window.
    - Select the parameters for the instrument to record to the file. Recommend:
        - Pressure, Temperature, Level Depth to Water, Specific Conductivity, and TDS
    - Select the desire units for each parameter.
    - Select the “Next” arrowhead icon at the bottom of the window.
    - Select “Linear” logging.
    - Select the “Next” arrowhead icon at the bottom of the window.
    - Assign a logging interval of 15 minutes.
        - If “Event” logging or a “Linear” logging interval of less than 10 minutes is used, an external battery power source will be necessary due to greater energy use. An external battery is not currently included but can be obtained from In-Situ.
    - Select the “Next” arrowhead icon at the bottom of the window.
    - Choose whether to start and stop the log manually or by setting a scheduled start/stop time.
    - Select the “Next” arrowhead icon at the bottom of the window.
    - Select the option to represent the water level as “Depth to Water (DTW) / Drawdown.”
    - Select the “Next” arrowhead icon at the bottom of the window.

    - In the “New Reference” input box, assign the manually measured reference DTW.
    - Select the “Next” arrowhead icon at the bottom of the window.
    - This screen is for the selection of the specific gravity of the water to convert the measured pressure to head. Recommend using the default Fresh Water settings unless water quality analyses indicate otherwise.
    - Select the “Next” arrowhead icon at the bottom of the window.
    - Select “Standard Method” for the specific conductivity compensation method.
    - Select the “Next” arrowhead icon at the bottom of the window.
    - Either accept the default total dissolved solids (TDS) conversion factor of 0.65 or enter another value determined for the aquifer at this Site.
    - Select the “Next” arrowhead icon at the bottom of the window.
    - A summary screen showing the selected options for the log will be displayed. If this is acceptable, accept the choices to create the log.
    - The new log will be added to the main screen of the Logging interface.
        - The icon next to left of the log name indicates whether the log is scheduled (a clock), on standby waiting to be manually started (a clipboard), currently running (a running man), completed/stopped (a green check mark), or if there was an error (a red X).
        - If you opted to manually start the log, you may do so now by selecting the log and either hitting the “Start” arrow icon at the bottom or by right clicking and selecting the Start option.
        - If you opted to start on a schedule, it is a good idea to confirm that the log starts when it is supposed to.
    - Once the log has started running, the sensor will store the recorded data on the internal memory, and the communication between the Aqua TROLL and the laptop computer can be terminated using the “Connect to Device” icon in the bottom right-hand corner of the main window or by selecting File>Disconnect.
- Remove the TROLL Com adapter from the twist-lock cable, and place the large desiccant cartridge onto the cable end. Secure the cable in such a way that exposure to moisture is minimized.

2.6 Data Retrieval

- Ensure all connections remain dry and moisture free during data retrieval.
- Launch the Win Situ 5 software on the laptop computer.
- Establish a connection between the laptop computer and the Aqua TROLL using the TROLL Com adaptor, being careful not to reposition the senor within the well.
- Go to the Logging interface within the Win Situ 5 software, and select the data log you are interested in downloading. The log does not need to be stopped prior to downloading data.
- Either click on the “Download the selected log to the connected PC” arrow icon at the bottom of the main window or right-click on the log and select the “Download” option. If this is the first time you’ve downloaded the log to a particular computer, select the “Download all data option.” It is recommended to download the full log data set each time.
- Select to “OK” arrow icon in the bottom right-hand corner of the new window.
- Select the “OK” button after the download is complete.

- A dialogue box will appear asking if you want to view the data. Select “Yes”, and it will take you to the My Data tab within the software.
    - The left-hand portion of the screen provides a file-manager layout
    - The right-hand portion of the screen provides a listing of the item selected in the file-manager layout
- Under the Site Data folder, find the Site Name and then select the downloaded file (with the extension *.wsl)
- Either right-click and select the “Export to CSV” option or use the File>Export to CSV option.
- The exported CSV file will appear under the Exported Data folder identified by the Site Name.
- Double clicking on this CSV file should open the file in Excel to allow the user to check to ensure the most recent data has been downloaded.
- Terminate communication between the Aqua TROLL and the laptop computer using the “Connect to Device” icon in the bottom right-hand corner of the main window or by selecting File>Disconnect.
- Disconnect the laptop computer from the Aqua TROLL, and replace the desiccant cartridge on the cable end. If the desiccant needs to be replaced (i.e., has turned from blue to pale pink), this is a good time to do so.

2.7 Sensor Removal

- Ensure all connections remain dry and moisture-free during data retrieval.
- Launch the Win Situ 5 software on the laptop computer.
- Establish a connection between the laptop computer and the Aqua TROLL using the TROLL Com adapter.
- Go to the Logging interface of the Win Situ 5 software, and select the active log.
- To stop the log, either click on the “Stop” icon at the bottom of the main window, or right-click on the log and use the Stop option.
- Conduct a final data retrieval, using the procedure above, prior to removal.
- Terminate communication between the Aqua TROLL and the laptop computer using the “Connect to Device” icon in the bottom right-hand corner of the main window or by selecting File>Disconnect.
- Disconnect the Aqua TROLL from the laptop computer, and replace the desiccant cartridge on the cable end.
- Carefully pull the cable and Aqua TROLL sensor from the well and store on cable reel.
- There is no particular need to disconnect the Aqua TROLL sensor from the cable. However, if you do disconnect the instrument from the cable, be careful not to get any moisture into either of the terminal ends and ensure both ends are covered with the red plastic caps.